TCATTGTCTGGAGAATAGAGAAATGGAGCTGGCGCTGGTGCCTGTGAGCGCCCACGGCAACTTCTATGAGGGGG  ${\tt ACTGCTACGTCATCCTCTGGACCCGGAGAGTGGCCAGTCTCCTATCCCAGGACATCCACTTCTGGATCGGGAAGG}$ ACTCCTCCCAGGATGAGCAAAGCTGCGCAGCCATATATACCACACAGCTGGACGACTACCTGGGAGGCAGCCCTG TGCAGCACCGAGAGGTCCAGTACCATGAGTCAGACACTTTCCGTGGCTACTTCAAGCAGGGCATCATCTACAAGC AGGGGGGTGTCGCCTCTGGGATGAAGCACGTGGAGACCAATACCTACGACGTGAAGCGGCTGCTACATGTGAAAG GGAAAAGAAACATCAGGGCTACCGAGGTGGAAATGAGCTGGGACAGTTTCAACCGAGGTGATGTCTTCTTGCTGG ACCTTGGGAAAGTCATCCAATGGAATGGCCCAGAGAGCAACAGTGGGGAGCGCCTGAAGGCTATGCTTCTGG CAAAGGATATTCGAGACAGGGAGCGAGGGGGCCCGTGCTGAAATAGGAGTGATCGAGGGAGACAAGGAGGCAGCCA GCCCAGAGCTGATGAAGGTCCTTCAGGACACCCTTGGCCGACGCTCCATTATCAAGCCTACAGTCCCTGATGAGA TCATAGATCAGAAGCAGAAATCAACTATCATGTTGTATCATATCTCAGATTCAGCTGGGCAGCTGGCAGTCACAG AGGTAGCAACAAGGCCTCTGGTCCAGGACTTACTGAACCATGATGACTGCTACATCCTGGACCAAAGTGGAACCA AAATCTACGTGTGGAAAGGAAAGGAGCCACAAAGGCTGAAAAACAGGCAGCCATGTCTAAAGCGCTGGGCTTCA TCAAGATGAAGAGCTACCCCAGCAGCACCAATGTGGAGACCGTCAACGATGGTGCTGAGTCGGCCATGTTCAAGC AGCTGTTCCAGAAGTGGTCAGTAAAGGACCAGACCATGGGCCTGGGGAAAACGTTCAGCATTGGTAAAATTGCTA AAGTTTTCCAGGATAAATTTGATGTGACTCTGCTACACCCAAGCCAGGGTAGCTGCCCAGGAAAGAATGGTCG ATGATGGCAACGGAAAAGTTGAGGTCTGGAGAATTGAGAACCTGGAGCTGGTCCCTGTGGAGTATCAATGGTATG GCTTCTTTTATGGGGGAGACTGTTATCTGGTCCTCTACACATACGAGGTAAATGGGAAGCCACATCACATCTTGT ACATCTGGCAGGCCGCCACGCCTCACAGGATGAGCTGGCAGCCTCAGCATACCAGGCAGTGGAGGTGGATCGGC AGTTTGATGGGGCTGCTGTGCAGGTTCGAGTCAGGATGGGAACGGAGCCACGCCACTTCATGGCCATCTTCAAAG GGAAGCTAGTTATCTTTGAGGGTGGGACTTCCAGGAAGGGAAATGCCGAGCCTGACCCTCCAGTAAGACTCTTCC AAATTCATGGAAATGACAAATCTAACACCAAAGCAGTGGAAGTTCCAGCCTTTGCCTCCCTAAACTCCAATG ATGTCTTTCTGCTGCGAACTCAGGCAGAGCACTACCTGTGGTATGGCAAGGGGTCTAGTGGGGATGAGCGGGCAA TCTGGGACCTACTGGGAGGGAAAACTCCCTATGCCAATGATAAAAGACTTCAGCAGGAAATCCTAGATGTCCAGT CTCGTCTCTTTGAATGTTCCAATAAGACCGGCCAATTCGTTGTCACTGAGATCACAGACTTCACCCAGGATGACC TGAACCCTACTGACGTGATGCTCCTAGATACCTGGGACCAGGTGTTCTTGTGGATTGGGGCTGAGGCCAATGCCA CAATCCTGATCATTAAGCAGGGGTTTGAGCCTCCCATCTTCACAGGCTGGTTCCTAGCCTGGGACCCTAACATTT GGAGTGCAGGAAAAACATATGAACAATTAAAAGAAGAGCTGGGAGATGCTGCTGCTATCATGCGAATCACTGCTG ACATGAAGAATGCAACCCTCTCCCTGAATTCTAATGACAGTGAGCCAAAATATTACCCTATAGCAGTTCTGTTGA AAAACCAGAATCAGGAGCTGCCTGAGGATGTAAACCCTGCCAAAAAGGAGAATTACCTCTCTGAACAGGACTTTG AAATAATTTATCCACCAATTTCTGCCTGACATTCAGCTACTTAATTTAGATATAATAGAGTCTGCAAATCACGGC ATGTTCTCCATTTTTTCTCATCCTTGCATTCCTTGCTTATATACCTAAAATGTTAACCATATAGTTTTTGGG TTTTGTGGCCC

MPLTSAFRAVDNDPGIIVWRIEKMELALVPVSAHGNFYEGDCYVILSTRRVASLLSQDIHFWIGKDSSQDEQSCA AIYTTQLDDYLGGSPVQHREVQYHESDTFRGYFKQGIIYKQGGVASGMKHVETNTYDVKRLLHVKGKRNIRATEV EMSWDSFNRGDVFLLDLGKVIIQWNGPESNSGERLKAMLLAKDIRDRERGGRAEIGVIEGDKEAASPELMKVLQD TLGRRSIIKPTVPDEIIDQKQKSTIMLYHISDSAGQLAVTEVATRPLVQDLLNHDDCYILDQSGTKIYVWKGKGA TKAEKQAAMSKALGFIKMKSYPSSTNVETVNDGAESAMFKQLFQKWSVKDQTMGLGKTFSIGKIAKVFQDKFDVT LLHTKPEVAAQERMVDDGNGKVEVWRIENLELVPVEYQWYGFFYGGDCYLVLYTYEVNGKPHHILYIWQGRHASQ DELAASAYQAVEVDRQFDGAAVQVRVRMGTEPRHFMAIFKGKLVIFEGGTSRKGNAEPDPPVRLFQIHGNDKSNT KAVEVPAFASSLNSNDVFLLRTQAEHYLWYGKGSSGDERAMAKELASLLCDGSENTVAEGQEPAEFWDLLGGKTP YANDKRLQQEILDVQSRLFECSNKTGQFVVTEITDFTQDDLNPTDVMLLDTWDQVFLWIGAEANATEKESALATA QQYLHTHPSGRDPDTPILIIKQGFEPPIFTGWFLAWDPNIWSAGKTYEQLKEELGDAAAIMRITADMKNATLSLN SNDSEPKYYPIAVLLKNQNQELPEDVNPAKKENYLSEQDFVSVFGITRGQFAALPGWKQLQMKKEKGLF

### FIGURE 3699A

ACACACCACACACTCACACTCACACACTCACACACTCATCCCACTTGAATCTTGGGGCAGGAACTCAGA AAACTTCCAGCCCGGGCAGCGCGCTTGGTGCAAGACTCAGGAGCTAGCAGCCCGTCCCCCTCCGACTCTCCGG GCCCGACCCTATCCCGGCGGAGTCTCCCCATCCTCCTTTGCTTTCCGACTGCCCAAGGCACTTTCAATCTCAATC AGGAGGAGGAATTCTTTCCCCGCCTAACATTTCAAGGGACACAATTCACTCCAAGTCTCTTCCCTTTCCAAGCCG CTTCCGAAGTGCTCCCGGTGCCCGCAACTCCTGATCCCAACCCGCGAGAGGAGCCTCTGCGACCTCAAAGCCTCT GACGTCCGGTGTTGATGGTGGCAGCGGCGGCAGCCTAAGCAACAGCAGCCCTCGCAGCCCGCCAGCTCGCGCTCG CCCCGCCGGCGTCCCCAGCCCTATCACCTCATCTCCCGAAAGGTGCTGGGCAGCTCCGGGGCGGTCGAGGCGAAG CAGCCCAGGGACAACCTGCCGCCCCAGCGCCTCAGAAGAGGAGGCGGCCGCCCCAGGAAGCAGCAGCAAGAAC CAACCGGTGAGCCCTCTCTTAAGAGACCCAGGGGAAGACCCAAAGGCAGCAAAAACAAGAGTCCCTCTAAAGCAG CTCAAAAGAAGCAGAAGCCACTGGAGAAAAACGGCCAAGAGGCAGACCTAGGAAATGGCCACAACAAGTTGTTC AGAAGAAGCCTGCTCAGGAGGAAACTGAAGAGACATCCTCACAAGAGTCTGCCGAAGAGGACTAGGGGGGCGCCAA CGTTCGATTTCTACCTCAGCAGCAGTTGGATCTTTTGAAGGGAAGACACTGCAGTGACCACTTATTCTGTATT CACATAACCTTAAAAAGGACTATATTAATCACCTTCTTTGTAATCCCTTCACAGGTCCCAGGTTTAGTGAAAAACCT GCTGTAAACACAGGGGACACAGCTTAACAATGCAACTTTTAATTACTGTTTTCTTTTTCTTAACCTACTAATAG TTTGTTGATCTGATAAGCAAGAGTGGGCGGGTGAGAAAAACCGAATTGGGTTTAGTCAATCACTGCACTGCATGC AAACAAGAAACGTGTCACACTTGTGACGTCGGGCATTCATATAGGAAGAACGCGGTGTGTAACACTGTGTACACC TCAAATACCACCCCAACCCACTCCCTGTAGTGAATCCTCTGTTTAGAACACCAAAGATAAGGACTAGATACTACT TTCTCTTTTTCGTATAATCTTGTAGACACTTACTTGATGATTTTTTAACTTTTTATTTCTAAATGAGACGAAATGC TGATGTATCCTTTCATTCAGCTAACAAACTAGAAAAGGTTATGTTCATTTTTCAAAAAAGGGAAGTAAGCAAACAA ATATTGCCAACTCTTCTATTTATGGATATCACACATATCAGCAGGAGTAATAAATTTACTCACAGCACTTGTTTT CAGCCTCAGAGCATTTAAGGAAACTAGACAAGTAAAATTATCCTCTTTGTAATTTAATGAAAAGGTACAACAGAA TAATGCATGATGAACTCACCTAATTATGAGGTGGGAGGAGCGAAATCTAAATTTCTTTTGCTATAGTTATACATC TCTCTTTTCATTGTGTATCAGTTTCCATGAAAGACCTGAATACCACTTACCTCAAATTAAGCATATGTGTTACTT AACTGCACTTTTAGCCAGAGATGCAATATATCCCCACTACTCAATACTACCTCTGAATGTTACAACGAATTTACA GTCTAGTACTTATTACATGCTGCTATACACAAGCAATGCAAGAAAAAAACTTACTGGGTAGGTGATTCTAATCAT CTGCAGTTCTTTTTGTACACTTAATTACAGTTAAAGAAGCAATCTCCTTACTGTGTTTTCAGCATGACTATGTATT TTTCTATGTTTTTTAATTAAAAATTTTTTAAAATACTTGTTTCAGCTTCTCTGCTAGATTTCTACATTAACTTGA GACTGTAATATTTAAATATTACCCTCCAAGTCTGTACCTCAAATGAATTCTTTAAGGAGATGGACTAATTGACTT AATAGTTCAAACTGCAGCTAACCCTAGTCAAAACTATTTTTGTAAAAGACATTTGATAGAAAGGAACACGTTTTT GAGATGCAACAAGCCCTGCTTTTGCATAATGCAATCAAAAATATGTGTTTTTTAAGATTAGTTGAATATAAGAAAA GCCAGGAGGTAGTTTCTCATGACGGCTTTTGTCAGTATGGCTTTTAGTACTGAAGCCAAATGAAACTCAAAACCA TCTCTCTCCAGCTGCTTCAGGGAGGTAGTTTCAAAGGCCACATACCTCTCTGAGACTGGCAGATCGCTCACTGT TGTGAATCACCAAAGGAGCTATGGAGAGAATTAAAACTCAACATTACTGTTAACTGTGCGTTAAATAAGCAAATA AACAGTGGCTCATAAAAATAAAAGTCGCATTCCATATCTTTGGATGGGCCTTTTAGAAACCTCATTGGCCAGCTC

# FIGURE 3699B

 $MVFRRFVEVGRVAYVSFGPHAGKLVAIVDVIDQNRALVDGPCTQVRRQAMPFKCMQLTDFILKFPHSARQKYVQQ\\ AWQKADINTKWAATRWAKKIEARERKAKMTDFDRFKVMKAKKTRNRIIKNEVKKLQKAALLKASPKKAPGTKGTA\\ AAAAAAAAAAKVPAKKMTAASKKASAQKVPAQKATGQKAAPAPKAQKGQKAPAQKAPAPKASGKKA\\ \\$ 

 ${\tt MAEEAARKLLPAFQTPTGMPYGTVNLLHGVNPGETPVTCTAGIGTFIVEFATLSSLTGDPVFEDVARVALMRLWESRSDIGLSITKPSGTTPASMTGTCGFRCTRGLCPCQSSSPWRPTGLVFRASLETLTMP}$ 

CAAATTTTTATCAAAGTTAATGGATCAGTTAGAAGCTCTAAAGAAGCAGTTGGGTGATAATGAAGCTATTACTCA AGAAATAGTGGGCTGTGCCCATTTGGAGAATTATGCTTTGAAAATGTTTTTTGTATGCAGACAATGAAGATCGTGC TGGACGATTTCACAAAAACATGATCAAGTCCTTCTATACTGCAAGTCTTTTGATAGATGTCATAACAGTATTTGG GAATGGGGAGACTCCTCAAGCAGGCCCTGTTGGAATTGAAGAAGATAATGATATTGAAGAAAATGAAGATGCTGG AGCAGCCTCTCTGCCCACTCAGCCAACTCAGCCATCATCTTCAACTTATGACCCAAGCAACATGCCATCAGG CAACTATACTGGAATACAGATTCCTCCGGGTGCACACGCTCCAGCTAATACACCAGCAGAAGTGCCTCACAGCAC AGGTGTAGCAAGTAATACTATCCAACCTACTCCACAGACTATACCTGCCATTGATCCCGCACTTTTCAATACAAT TTCCCAGGGGGATGTTCGTCTAACCCCAGAAGACTTTGCTAGAGCTCAGAAGTACTGCAAATATGCTGGCAGTGC TTTGCAGTATGAAGATGTAAGCACTGCTGTCCAGAATCTACAAAAGGCTCTCAAGTTACTGACGACAGGCAGAGA ATGAAGCCTTTGTATGACAGACCCATGTATTTTTGGCATGAGGAACTAACAGTCCATTACTCTATCTTCAGCCTA TCAGGATCACATTTTCATTGTCCATTTACTAGATTCAATCGTCTCTGAGTATATAGGGCTGATGTTAGCAAGACC CTAAAAATGTCCATTGAACCCTGCTTCAAAAAATGAAAACACACCTCTATAAAATGTGTACTGGGAATAAGCTTT GTATTTACATACATTAGGGGAATTTTTTAAAATCTGTAATGTTTGGACAAACAGATGATATTACTTTGCTATAAA ATTATAAATGTAACTTTTAATAAAGATAGCCAGAATATTCTAAATTAGAAATTACGTTTTTGTTTCCCTCAAGAC ATAAAACAAATATAAACATTCTAAACTGCTGGATGAATCTGAAAAGACATTAAGTTCAAATTTTAATTTATTCTC ATATTAAATATAACTCCATTAAAAGTTTAAAATTTCATGGGAGAAAATATAATAAGGTAAAGAGGTAGAATCACT TTCAGACTTAAGAATAATGTTGATTTCCCAAGTGCTTTACCTTATCTGTTAAAGCGTAAGATGAATTGGTATTTG CTTCATAGGCAGTTTGACTGCATGTATTAGAGAATGAAAAGAAGATATTTGTAGTAATGCCTGGAAACTTGGTGC TTTAAATTAAGGTACTCCTCTGCTGCTGTAGAATGGATTCCACACAGTGGATAGCTATGGGTGATTCAGAATATT ATGTTTAGATTCCCATTTGTTAAGTTTATAAGTTTTGTGGGGAATTATGAACTTACTGTGTACTACCTGCATTTG TGCTGTGTGAAAAATAAATACAAGGATTCGTTTAGCTAA

CGGGCCCCGCCCCCCCCCCCCCATGGACATGCTGGACCCGGGTCTGGATCCCGCTGCCTCGGC CACCGCTGCTGCCGCCCAGCCACGACAAGGGACCCGAGGCGGAGGAGGGCGTCGAGCTGCAGGAAGGCGGGGA  $\tt CGGCCCAGGAGCGGAGCAGCAGCGGTGGCCATCACCAGCGTCCAGCAGCGGCGTTCGGCGACCACAACAT$ GGCGGCCGAGGCTGTCAGCGGGGGGGGCACGATTTGCCTATTTCCCAGCGTCCAGTGTGGGAGATACTACGGCTGT GTCCGTACAGACCACAGACCAGAGCTTGCAGGCTGGAGGCCAGTTCTACGTCATGATGACGCCCCAGGATGTGCT TCAGACAGGAACACAGAGGACGATCGCCCCCGGACACACCCTTACTCTCCAAAAATTGATGGAACCAGAACACC CCAGCTTTCGAAAATCATTCCAGACTGTAACGCAGACAACAGCAAGACGGGAGCGAGTAAAGGAGGGATCCTGTC GCTGCAGATGGACAACGAGCTCCTGAGGCAGCAGATCGAGGAGCTGAAGAATGAGAACGCCCTGCTTCGAGCCCA GCTGCAGCACCACCACCTGGAGATGGTGGGCGAGGGCACCCGGCAGTGACGCCGCCACCACCACCACGCAGCCGCCG  $\tt CGTTTTTTTATAGTAGATTTTTAACAAAAAACGGGGGAGAAATAATGCATTTCTGTGGATACAGTGCCCACCGCCC$ TCTGGAGGTACTGAGACAGGGTGCTGATGGGAAGGAGGGGAGCCTTTGGGGGGCCACCCGGGGCCTGGACCTATG CAGGGAGGCCACGTCCCACCCCACCTCTTGTTTCTGGGTCCCTGCTCCCCTTTGGGGGGTGTGTGTGTTTTA ATTTTCTTTATGGAAAAATTGAC

MDMLDPGLDPAASATAAAAASHDKGPEAEEGVELQEGGDGPGAEEQTAVAITSVQQAAFGDHNIQYQFRTETNGG QAVIQNPFSNGGSPAAEAVSGEARFAYFPASSVGDTTAVSVQTTDQSLQAGGQFYVMMTPQDVLQTGTQRTIAPR THPYSPKIDGTRTPRDERRRAQHNEVERRRRDKINNWIVQLSKIIPDCNADNSKTGASKGGILSKACDYIRELRQ TNQRMQETFKEAERLQMDNELLRQQIEELKNENALLRAQLQQHNLEMVGEGTRQ

CGATTGTTGGTGACAGCGAAAGAACGATAACAAAATGCCGGAGCGAGATAGTGAGCCGTTCTCCAACCCTTTGGC CCCCGATGGCCACGATGTGGATGATCCTCACTCCTTCCACCAATCAAAACTCACCAATGAAGACTTCAGGAAACT TCTCATGACCCCCAGGGCTGCACCTACCTCTGCACCACCTTCTAAGTCACGTCACCATGAGATGCCAAGGGAGTA CAATGAGGATGAAGACCCAGCTGCACGAAGGAGGAAAAAGAAAAGTTATTATGCCAAGCTACGCCAACAAGAAAT TGAGAGAGAGAGAGAGCTAGCAGAGAAGTACCGGGATCGTGCCAAGGAACGGAGGAGATGGAGTGAACAAAGATTA TGAAGAAACCGAGCTTATCAGCACCACAGCTAACTATAGGGCTGTTGGCCCCACTGCTGAGGCGGACAAATCAGC TGCAGAGAGAGAGACAGTTGATCCAGGAGTCCAAATTCTTGGGTGGTGACATGGAACACCCCATTTGGTGAA AGGCTTGGATTTTGCTCTGCTTCAAAAGGTACGAGCTGAGATTGCCAGCAAAGAGAAAGAGGAAGAGAACTGAT GGAAAAGCCCCAGAAAGAACCAAGAAAGATGAGGATCCTGAAAATAAAATTGAATTTAAAACACGTCTGGGCCG CAATGTTTACCGAATGCTTTTTAAGAGCAAAGCATATGAGCGGAATGAGTTGTTCCTGCCGGGCCGCATGGCTAG TGTGGTAGACCTGGATGATGAGTATGCTGACACAGATATCCCCACCACTCTTATCCGCAGCAAGGCTGATTGCCC CACCATGGAGGCCCAGACCACACTGACCACAAATGACATTGTCATTAGCAAGCTGACCCAGATCCTTTCATACCT GAGGCAGGGAACCCGTAACAAGAAGCTTAAGAAGAAGGATAAAGGGAAGCTGGAAGAAGAAACCTCCTGAGGC TGACATGAATATTTTTGAAGACATTGGGGATTACGTACCCTCCACAACCAAGACACCTCGGGACAAGGAGCGGGA GAGATATCGGGAACGGGAGCGTGATCGGGAAAGAGACAGAGACCGTGACCGAGAGCGAGAGCGAGAACGAGATCG AGATGATGAGCCCATGGACGTTGACAAAGGACCTGGGTCTACCAAGGAGTTGATCAAGTCCATCAATGAAAAGTT TGCTGGGTCTGCTGGCTGGGAAGGCACAGAATCGCTGAAGAAGCCAGAAGACAAAAAAGCAGCTGGGAGATTTCTT GGATTATAGCAAAATGGACCAGGGTAACAAGAAGGGGCCCTTAGGCCGTTGGGACTTTGATACCCAGGAAGAATA CAGCGAGTATATGAACAACAAGAAGCTTTGCCCAAGGCTGCATTCCAGTATGGTATCAAAATGTCTGAAGGGCG GAAAACCAGGCGCTTCAAGGAAACCAATGACAAAGCAGAGCTTGATCGCCAGTGGAAGAAGATTAGTGCAATCAT TGAGAAGAGGAAGATGGAAGCTGATGGGGTTGAAGTCAAAAGACCAAAATACTAATCACTAGTTACAACCAG ATGAATATAAAATTTTATTGTGTAATTACTTGGTTCCATTAAAATTGGTTAACTTGC

GCTGGATGGGGAGAGCTGTATGGACGCTCAGGCTACAACTATTTTTTCTCAGGGGGTGCAGATGATGCCTGGGCA GATGTGGAGGACGTCACGGAGGAGGACTGTGCTCTTCGAAGTGGTGACACGCATCTTTTTGATAAGGTCAGAGGC TATGACATCAAGCTGCTTCGATACCTGTCAGTCAAATACATCTGTGACCTG<u>ATG</u>GTGGAGAACAAGAAGGTGAAG TTTGGCATGAATGTAACCTCCTCTGAGAAGGTGGACAAAGCCCAGCGCTATGCCGACTTCACTCTCCTCCATC  ${\tt CCGTATCCAGGCTGTGAATTTTCAAGGAATATAAAGATCGGGATTACATGGCAGAAGGGCTCATATTTAACTGG}$ TATCAGTGTTGGGATCTGGTGCAACAAACACAAAACTACCTGAAGCTGCTTTCCTTAGTTAACAGTGATGAT TTGTGGGCTGATGGGCTCATCCACACGTCCCTGAAGCCCACTGAGATCCTCTACCTCACTGTGGCCTATGACTGG TTCACCCTGGAAGACATCTGCATGCTGAGACGAAAGGACCGTGGCAGCCACCAGCCTTGGCAGCGACTTCTCC CCAACTCAGGCAGCTTGGCTTGCAGCCCTGAGTGATCGAGAGACTCGCTGCAGGAGGTGCGCTCAGCCTTCTTGG GCTCCTCTCAGCTGAGCCCTTAGCAGAGAATCAAAGCCATGCCTGGCCGAAGGGGTACTTCCAGGTCAGGGGA AATTTCAGTCCCCCATCTCCATCATGAACATGGCAGCCCCAAAGCTGAGCCAAAGCCAAAGACAGGGTTTTCCAAC CATCAACTCTCAGAACTGTGTGGGGGTTTCCCTGGGGGCCTTGTGGAAGCCCATGACTTCACAAAGACCCTACCTGTC  ${\tt AGTTCTTGTTTCTGGGGAGGGGGGTCACCTGCACTGAGAATGAGGCAGTTTGACACAGATCACAAAATAAAATC}$ AAAGTCTTTTTG

MVENKKVKFGMNVTSSEKVDKAQRYADFTLLSIPYPGCEFFKEYKDRDYMAEGLIFNWKQDYVDAPLSIPDFLTH SLNIDWSQYQCWDLVQQTQNYLKLLLSLVNSDDDSGLLVHCISGWDRTPLFISLLRLSLWADGLIHTSLKPTEIL YLTVAYDWFLFGHMLVDRLSKGEEIFFFCFNFLKHITSEEFSALKTQRRKSLPARDGGFTLEDICMLRRKDRGST TSLGSDFSLVMESSPGATGSFTYEAVELVPAGAPTQAAWLAALSDRETRCRRCAQPSWLRTAAQWGFGQ

ACGAGAAGTAGTCGTTTATGCTCCACTTTCAAAGAAGCAGGAGATCTTTTATACAGCCATTGTGAACCGTACAAT TGCAAACATGTTTGGATCCAGTGAGAAAGAAACAATTGAGTTAAGTCCTACTGGTCGACCAAAACGACGAACTAG AAAATCAATAAATTACAGCAAAATAGATGATTTCCCTAATGAATTGGAAAAACTGATCAGTCAAATACAGCCAGA GGTGGACCGAGAAAGAGCTGTTGTGGAAGTGAATATCCCTGTAGAATCTGAAGTTAATCTGAAGCTGCAGAATAT TAAGATCGATGAAGAATTGGTAACAAATTCTGGGAAGTTCTTGATTTTGGATCGAATGCTGCCAGAACTAAAAAA **AAGAGGTCACAAGGTGCTGCTTTTTTCACAAATGACAAGCATGTTGGACATTTTGATGGATTACTGCCATCTCAG** GGATCCAGAGGTGTTTATCTTCTTAGTGAGTACACGAGCTGGTGGCCTGGGCATTAATCTGACTGCAGCAGATAC AGTTATCATTTATGATAGTGATTGGAACCCCCAGTCGGATCTTCAGGCCCAGGATAGATGTCATAGAATTGGTCA GACAAAGCCAGTTGTTGTTTATCGCCTTGTTACAGCAAATACTATCGATCAGAAAATTGTGGAAAGAGCAGCTGC TAAAAGGAAACTGGAAAAGTTGATCATCCATAAAAATCATTTCAAAGGTGGTCAGTCTGGATTAAATCTGTCTAA GAATTTCTTAGATCCTAAGGAATTAATGGAATTATTAAAATCTAGAGATTATGAAAGGGAAATAAAAGGATCAAG  $\mathtt{T}\underline{\mathbf{TAA}}\mathtt{AGTGGAGCTCAAGAATAGCTTTTAAAAGTTCTTATTTACATCTAGTGATTTCCCTGTATTGGGTTTGAAAT$ ACTGATTGTCCACTTCACCTTTTTTATTATATCAGTTGACATGTAACTAGTACCATGCGTACTTAAATAGATGGT AATTTTCTGAGCCTTACCAAGAACAAGAAGTATCCATATTAAGTTTAGATTTTCAGTTAATTTTTGAGACTGAG TAGTATTCTTGGATACAGGCTGATGTGTACTTAACCACTTCCAGATTTATACAGTCTTCCTGTGGAAGTTTAGTA AATGTCTTTTTCCCTCCTTTCTTCTAGTAATGCAGTTCATGGGCTTTAGGTACTTCAGTTATGAAGTAGGCTTTT CATGGGGAGAGATTGGGATTATGCTCTCTGTTGTTTAAGAAACTGTTTGATTTTAGAGTCTATTTCTATGAGATA **GTTTACCAAATAAATGTTCCTTATAAG** 

MFGSSEKETIELSPTGRPKRRTRKSINYSKIDDFPNELEKLISQIQPEVDRERAVVEVNIPVESEVNLKLQNIMM LLRKCCNHPYLIEYPIDPVTQEFKIDEELVTNSGKFLILDRMLPELKKRGHKVLLFSQMTSMLDILMDYCHLRDF NFSRLDGSMSYSEREKNMHSFNTDPEVFIFLVSTRAGGLGINLTAADTVIIYDSDWNPQSDLQAQDRCHRIGQTK PVVVYRLVTANTIDQKIVERAAAKRKLEKLIIHKNHFKGGQSGLNLSKNFLDPKELMELLKSRDYEREIKGSREK VISDKDLELLLDRSDLIDQMNASGPIKEKMGIFKILENSEDSSPECLF

#### 4026/6881 FIGURE 3714A

GGGAGCGAGTGCGGAGCGAGTGGGAGCGAGCCCTGAGTGGAAGTGTCTGGCTCCCCGTAGAGGCCCTTCTG CTGCGACCCTGGAAGCGGGAGCCGCCGAGCGAGAGGAGGAGCTCCAGTGGCGGCGGCGGCGGCGGCAGCGGCA GCGGGCAGCAGCTCCAGCAGCGCCAGCAGGCGGGATCGAGGCCGTCAACATGGCGAGCGCCTCGTACCACATTTC CAATTTGCTGGAAAAAATGACATCCAGCGACAAGGACTTTAGGTTTATGGCTACAAATGATTTGATGACGGAACT GCAGAAAGATTCCATCAAGTTGGATGATAGTGAAAGGAAAGTAGTGAAAATGATTTTGAAGTTATTGGAAGA TAAAAATGGAGAGGTACAGAATTTAGCTGTCAAATGTCTTGGTCCTTTAGTGAGTAAAGTGAAAGAATACCAAGT AGAGACAATTGTAGATACCCTCTGCACTAACATGCTTTCTGATAAAGAACAACTTCGAGACATTTCAAGTATTGG TACTGGACGTCTTACAAGTGCAATAGCAAAACAGGAAGATGTCTCTGTTCAGCTAGAAGCCTTGGATATTATGGC TGATATGTTGAGCAGGCAAGGAGGACTTCTTGTTAATTTCCATCCTTCAATTCTGACCTGTCTACTTCCCCAGTT GACCAGCCCTAGACTTGCAGTGAGGAAAAGAACCATTATCGCTCTTGGCCATCTGGTTATGAGCTGTGGAAATAT AGTTTTTGTAGATCTTATTGAACATCTGTTGTCAGAGTTGTCCAAAAATGATTCTATGTCAACAACAAGAACCTA CATACAATGTATTGCTGCTATTAGTAGGCAAGCTGGTCATAGAATAGGTGAATACCTTGAGAAGATAATTCCTTT GGTGGTAAAATTTTGCAATGTAGATGATGATGAATTAAGAGAGTACTGTATTCAAGCCTTTGAATCATTTGTAAG AAGATGTCCTAAGGAAGTATATCCŢCATGTTTCTACCATTATAAATATTTGTCTTAAATATCTTACCTATGATCC AAATTATAATTACGATGATGAAGATGAAGATGAAAATGCAATGGATGCTGATGGTGGTGATGATGATCAAGG GAGTGATGATGAATACAGTGATGATGATGACATGAGTTGGAAAGTGAGACGTGCAGCTGCGAAGTGCTTGGATGC TGTAGTTAGCACAAGGCATGAAATGCTTCCAGAATTCTACAAGACCGTCTCTCCTGCACTAATATCCAGATTTAA AGAGCGTGAAGAGAATGTAAAGGCAGATGTTTTTCACGCATACCTTTCTCTTTTGAAGCAAACTCGTCCTGTACA AAGTTGGCTATGTGACCCTGATGCAATGGAGCAGGGAGAAACACCTTTAACAATGCTTCAGAGTCAGGTTCCCAA CATTGTTAAAGCTCTTCACAAACAGATGAAAGAAAAAAGTGTGAAGACCCGACAGTGTTGTTTTAACATGTTAAC TGAGCTGGTAAATGTATTACCTGGGGCCCTAACTCAACACATTCCTGTACTTGTACCAGGAATCATTTTCTCACT GAATGATAAATCAAGCTCATCGAATTTGAAGATCGATGCTTTGTCATGTCTATACGTAATCCTCTGTAACCATTC TCCTCAAGTCTTCCATCCTCACGTTCAGGCTTTGGTTCCTCCAGTGGTGGCTTGTGTTGGAGACCCATTTTACAA AATTACATCTGAAGCACTTCTTGTTACTCAACAGCTTGTCAAAGTAATTCGTCCTTTAGATCAGCCTTCCTCGTT TGATGCAACTCCTTATATCAAAGATCTATTTACCTGTACCATTAAGAGATTAAAAGCAGCTGACATTGATCAGGA TAATACACTTCAGATTTTCTTGGAGAGACTAAAGAATGAAATTACCAGGTTAACTACAGTAAAGGCATTGACACT GATTGCTGGGTCACCTTTGAAGATAGATTTGAGGCCTGTTCTGGGAGAAGGGGTTCCTATCCTTGCTTCATTTCT TAGAAAAAACCAGAGAGCTTTGAAACTGGGTACTCTTTCTGCCCTTGATATTCTAATAAAAAACTATAGTGACAG CTTGACAGCTGCCATGATTGATGCAGTTCTAGATGAGCTCCCACCTCTTATCAGCGAAAGTGATATGCATGTTTC ACAAATGGCCATCAGTTTTCTTACCACTTTGGCAAAAGTATATCCCTCCTCCCTTCAAAGATAAGTGGATCCAT TCTCAATGAACTTATTGGACTTGTGAGATCACCCTTATTGCAGGGGGGAGCTCTTAGTGCCATGCTAGACTTTTT CCAAGCTCTGGTTGTCACTGGAACAAATAATTTAGGATACATGGATTTGTTGCGCATGCTGACTGGTCCAGTTTA CTCTCAGAGCACAGCTCTTACTCATAAGCAGTCTTATTATTCCATTGCCAAATGTGTAGCTGCCCTTACTCGAGC ATGCCCTAAAGAGGGACCAGCTGTAGTAGGTCAGTTTATTCAAGATGTCAAGAACTCAAGGTCTACAGATTCCAT TCGTCTTAGCTCTACTTTCTCTTGGAGAAGTTGGGCATCATATTGACTTAAGTGGACAGTTGGAACTAAAATC TGTAATACTAGAAGCTTTCTCATCTCCTAGTGAAGAAGTCAAATCAGCTGCATCCTATGCATTAGGCAGCATTAG TGTGGGCAACCTTCCTGAATATCTGCCGTTTGTCCTGCAAGAAATAACTAGTCAACCCAAAAGGCAGTATCTTTT ACTTCATTCCTTGAAGGAAATTATTAGCTCTGCATCAGTGGTGGGCCTTAAACCATATGTTGAAAACATCTGGGC CTTATTACTAAAGCACTGTGAGTGTGCAGAGGAAGGAACCAGAAATGTTGTTGCTGAATGTCTAGGAAAACTCAC TCTAATTGATCCAGAAACTCTCCTTCCACGGCTTAAGGGGTACTTGATATCAGGCTCATCATATGCCCGAAGCTC AGTGGTTACGGCTGTGAAATTTACAATTTCTGACCATCCACAACCTATTGATCCACTGTTAAAGAACTGCATAGG TGATTTCCTAAAAACTTTGGAAGACCCAGATTTGAATGTGAGAAGAGTAGCCTTGGTCACATTTAATTCAGCAGC ACATAACAAGCCATCATTAATAAGGGATCTATTGGATACTGTTCTTCCACATCTTTACAATGAAACAAAAGTTAG 

## FIGURE 3714B

AGCATTTGAGTGTATGTACACACTTCTAGACAGTTGTCTTGATAGACTTGATATCTTTGAATTTCTAAATCATGT TGAAGATGGTTTGAAGGACCATTATGATATTAAGATGCTGACATTTTTAATGTTGGTGAGACTGTCTACCCTTTG TCCAAGTGCAGTACTGCAGAGGTTGGACCGACTTGTTGAGCCATTACGTGCAACATGTACAACTAAGGTAAAGGC AAACTCAGTAAAGCAGGAGTTTGAAAAACAAGATGAATTAAAGCGATCTGCCATGAGAGCAGTAGCAGCACTGCT AACCATTCCAGAAGCAGAGAGAGAGTCCACTGATGAGTGAATTCCAGTCACAGATCAGTTCTAACCCTGAGCTGGC GGCTATCTTTGAAAGTATCCAGAAAGATTCATCATCTACTAACTTGGAATCAATGGACACTAGTTAGATGTTTGT TCACCATGGGGACCATTACATATGACCATACAATGCACTGAATTGACAGGTTAATCATAAGACATGGAAAGAGAA TTTTTGTAGCATTTATTTCAGAAATGTGTATTTCCATAATCCAGAGGTTGTAAAACCACTAGTGTTTTAGTGGTT ACAGCAACATTTGAAATGGAAACTAAAAGTTAGGATTTTATGGAGTATGGAGATAGGGTCCAGTATCTATTTACC CTGTAATGTTTAGGATTAAAATGTTAAAATTTTGTGACCATGAATTTCTTTTTTATAAATTTTCTCATTTAAA TTTTTAGCTGGCAGACAAGAATATCCATATAAGATTTGTTAACCATTTCAGAGAGTTTGGCAATTTTTAAAAGAT AATAAGGTATCATTTTTAAGTATGAAAATTAACAATATCCCTGTTGCGCACACTAATTTTGCATGAGTAAGTTTA CAAATATGTATCGTCTGTAAAGCAGCATGTGCAGATTATTCATAATATAGAAGTTAAAATAAGTATTAGTGCAAT TCTTAATGCCAGTGTGAATTTGCAGATGTTTTCAGAAAATCAAGTCACAGTAACAATTTGCCACTTTTTTCTATT AAATTCTTAAAACCAGATTTTTCTTTCATTCCGTTTGGATGTCTACATTCCTTATCAAAGGATATAAATACTGTG TATGCTTTTGAATTTTATTTTTAGGAAAATTCTGAAGCCAGCTATCACAGGTTTGTTAGCTAATAATAGTATTTT CTTTTAGTTGAGTTAGGTTTTTCCCCATCTCCTGTAGAGCGAATTTACATATTGTATTGGGTAAGTGTTCACTAC ACATATCCTTCAGTGAGCTCATTTCACACTGTAGCCTCTTCCTTAAAATTTGTGGTGCTCCTGTAACAGTAAGAA CTAATTCTGAAATAAAAGACATCTCCTAATGCTGTGCAAACATAGTTTACATGTATTGAAGGAGGCAGTTGTTAA ATTGAGTGACCAATTTAAGCAATCAGATATTTGAAAACTGCACCCTTTAGTTTTGAAACTGTGAATTAGAAACAC TTTTCCTGCTGTATTACTACCTGCTTTAACATCCAAATATACAGTGATTTTAAATGATAACATACTGTGGTTATT AGATTAACAGCTTGATTTTGAATGTTCAGATGATAATGCAGAAGACATCACTTCTAGTAAGGATTTTGACTAGTG CATTGATGTTGAAGTTGGTGCCATTTCAAAATGTGGCAGGTGATAATCTTTTACCATAATTTGCATAAAACTGTA ATAGAAGTTTATTTTGAGATGTTAGTATATTATGTACTATGCATTTCTGTGGTATAGATGTTGTGGATATATTTA AGTATTTGGTTACATGGTTTTACAATAAATTACAATACTGCAGGC

CTGGCTTACAGGGCGGCGGGGTGTGTGTCCTCTGTTAAGAGTGCTACTCGCCCGGGGTTGATCTGTGCATGC CACTCCTGGGTCAGACGGTGAGGTCGGCGTCTGCGAGGACGCGGCGGTGGAGTAGAAGGGCAGCCGGAGACAGGC CCGGCGCCCCTTCCGAGGCTAGACGGCCCCAGCTTCGCGGGGATCATGGCATTGCTGGTGGACCGAGTGCGGGGC CACTGGCGAATCGCCGCCGGGCTCCTGTTCAACCTGCTGGTGTCCATCTGCATTGTGTTCCTCAACAAATGGATT TGCCAGAAGCTGGACATCTTTGCCCCCAAAAGTCTGCCGCCCTCCAGGCTCCTCCTCGTCCTCAGCTTCTGT GGCTTTGTGGTCTTCACTAACCTTTCTCTGCAGAACACACCATAGGCACCTATCAGCTGGCCAAGGCCATGACC ACGCCGGTGATCATAGCCATCCAGACCTTCTGCTACCAGAAAACCTTCTCCACCAGAATCCAGGTCACGCTGATT CCTATAACTTTAGGTGTAATCCTAAATTCTTATTACGATGTGAAGTTTAATTTCCTTGGAATGGTGTTTGCTGCT CTTGGTGTTTTAGTTACATCCTTTATCAAGTGTGGGTAGGAGCCAAACAGCATGAATTACAAGTGAACTCAATG CAGCTGCTGTACTACCAGGCTCCGATGTCATCTGCCATGTTGCTGGTTGCTGTGCCCTTCTTTGAGCCAGTGTTT TTCTGCATTACTTTATTCGGAGGATATGTTTTATTTAAGGATCCACTGTCCATTAATCAGGCCCTTGGCATTTTA CAACGTCCTTAATTGGGTTTTTGTGGAGAAAAGAATGTTGTCCCAAGAAGATAAAAAATATTGTTAAGTGTGCAA GTTATTAAAAAAAAAATTGGGCCAGGCACGGTGGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCCAAGGCC AGCGGATCACTTGAGGTCAGGAGTTCGAGACCAGCCTGACCAACATGGAGAAACCCTGTCTCAACTAATAATACA AAATTAGCCAGGCGTGGTGGCGCATGCCTGTAATCCCAGCTACTCGGGAGGCTGAGGCAGGAGAATCACTTGAAC  $\tt CCGGGAGGCGGCGGTTGCAGTGAGCCGAGATCGTACCATTGCACTCCAGCCTGGGCAACAAGAGCGAAACTCCAT$ TTCAAAAAAAAAATTGGTGACAGACTCAATGATGGAATGATTTGTCGGAATTAACACAAAGCAGATTTTATTC TTTTAAAAATGATTGTATAAAATGTATGGAATGGTTAGCCTGGTGTGGTGGTGCACACCTGTAATCCCAGCTACT TGGGAGACTGAGACATGAGAATCGCTTGAGCCTGGGAGGCGGAGGTTGCAATGAGCCAAGATCGTACCACTGCAC GGGTTGGTCCCAGCTGAGTATAGACAATTAAATTACGTGATAA

 ${\tt MQLLYYQAPMSSAMLLVAVPFFEPVFGEGGIFGPWSVSALLMVLLSGVIAFMVNLSIYWIIGNTSPVTYNMFGHFKFCITLFGGYVLFKDPLSINQALGILCTLFGILAYTHFKLSEQEGSRSKLAQRP}$ 

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### FIGURE 3717

 $\tt CTGCAGCCAACTTTGGTTGTGTGGAAAAGGCTTTAGCC\underline{ATG}{GACAGGAGTGGCTTTGGAGAGATATCATCCCC}$ TGTAATCCGGGAGGCAGAGGTGACACGGACTGCACGGAAACAGAGTGCTCAGAAAAGAGTTTTACTTCAGGCATC TCAAGATGAAAATTTTGGTAATACTACACCAAGAAACCAGGTTATCCCTCGAACTCCTAGCTCATTTCGACAGCC TTTTACCCCAACAAGCCGAAGCTTACTAAGGCAGCCAGATATTTCCTGCATTCTTGGAACAGGAGGGAAGTCGCC CCGACTTACGCAGTCTTCAGGGTTCTTTGGAAATCTCTCCATGGTTACTAATCTGGATGACAGTAACTGGGCAGC TGCATTTTCATCACAGCGTTCCGGGCTGTTCACAAACACAGAGCCCCCACAGTATAACAGAAGATGTAACTATCAG TGCTGTTATGTTACGTGAGGATGATCCTGGAGAAGCTGCATCCATGAGTATGTTTTCTGATTTCCTGCAGTCTTT TCTGAAGCACTCTTCGAGTACAGTTTTTGATCTTGTGGAAGAGTATGAAAACATCTGTGGTAGTCAGGTGAATAT ACTGAGTAAAATAGTGAGTCGAGCAACACCTGGACTTCAAAAATTTTCAAAAACAGCCAGTATGCTCTGGCTTCT TCAACAGGAGATGGTCACATGGAGGCTGCTGGCTTCTTTGTATAGAGACAGAATACAGTCTGCATTAGAAGAGGA AAGTGTATTCGCAGTTACTGCTGTTAATGCCAGTGAAAAAACAGTTGTGGAAGCGTTATTTCAGAGGGATTCACT TGTTCGACAAAGTCAGCTGGTGGTAGATTGGTTAGAGAGTATTGCCAAAGATGAAATTGGAGAATTTTCTGATAA TATTGAGTTTTATGCAAAATCAGTATATTGGGAAAATACTCTGCATACCTTAAAACAACGGCAGCTGACTTCTTA CGTTGGAAGTGTTCGTCCGCTTGTCACTGAATTGGACCCTGATGCTCCCATAAGACAGAAAATGCCCCTTGATGA TCTGGATAGAGAAGATGAAGTTAGATTACTCAAATATCTCTTTACTCTAATCCGTGCTGGAATGACAGAAGAGGC ACAACGACTCTGTAAACGCTGTGGTCAAGCATGGAGAGCTGCAACACTTGAAGGCTGGAAACTGTACCATGACCC TAATGTTAATGGAGGAACAGAATTAGAACCTGTTGAAGGGAATCCATATAGACGCATTTGGAAAATAAGTTGCTG GAGAATGGCAGAAGATGAGCTTTTTAATAGATACGAGAGAGCAATTTATGCAGCTTTAAGTGGGAATCTTAAGCA GCTGCTTCCTGTCTGTGACACCTGGGAAGACACAGTTTGGGCCTACTTCCGGGTGATGGTGGACAGTCTGGTAGA ACAGGAGATCCAGACATCAGTAGCAACTCTGGATGAAACTGAAGAACTCCCTAGAGAATATCTGGGAGCAAACTG GACGTTAGAAAAGGTTTTTGAGGAACTTCAAGCTACTGACAAAAAGAGAGTTCTGGAAGAAGACATTA AAGCAGAAACAATCTACCTGGACACCTGCTTCGCTTTATGACTCACCTTATTTTGTTTTTCCGTACTCTGGGACT TCTTATAGCATTTTATACCTGTCATTTGCCTCAAGACCTAGCTGTTGCCCAGTATGCATTATTTTTTGGAAAGTGT TACAGAATTTGAACAGCGCCACCATTGCCTGGAGTTGGCTAAAGAAGCAGATTTGGATGTTGCAACAATAACAAA AACTGTAGTTGAGAATATTCGAAAGAAAGATAATGGTGAATTTAGTCATCATGACCTGGCCCCAGCCCTAGATAC AGCACTGAAACAAGGCAATGCAATTATGAGAAAATTCTTGGCATCAAAAAAGCACGAAGCTGCAAAAGAAGTATT TGTGAAAATTCCTCAGGATTCTATAGCAGAAATCTATAATCAGTGCGAGGAACAAGGAATGGAAAGTCCACTTCC TGCTGAAGATGATAATGCTATCCGAGAACATTTGTGCATCAGAGCTTATTTGGAAGCCCATGAAACCTTTAATGA TCATGAACACAAAGAAAAGAAATATGAAATGGATTTTGGTATTTGGAAAGGGCATTTGGATGCCCTAACTGCTGA TGTGAAGGAGAAAATGTATAACGTCTTGTTGTTGTTGATGGAGGGTGGATGGTGGATGTTAGAGAGGATGCCAA AGAAGACCATGAAAGAACACATCAAATGGTCTTACTGAGAAAGCTTTGTCTGCCAATGTTGTGTTTTCTGCTTCA TACGATATTGCACAGTACTGGTCAGTATCAGGAATGCCTACAGTTAGCAGATATGGTATCCTCTGAGCGCCACAA ACTGTACCTGGTATTTTCTAAGGAAGAGCTAAGGAAGTTGCTGCAGAAGCTCAGAGAGTCCTCTAATGCTCCT  ${\tt AGACCAGGGACTTGACCCATTAGGGTATGAAATTCAGTTA} \underline{{\tt TAG}} {\tt TTAATCTTTGTAATCTCACTAATTTTCATGA}$ TAAATGAAGTTTTTAATAAAATATACTTGTTATTAGTAATTTTTTCTTTTGCATTACCATGTAAAATTTAGACAT TTGAATTTTGTACTTTCAGAATATTATCGTGACACTTTCAACATGTAGGGATATCAGCGTTTCTCTGTGTGCTT 

MDRSGFGEISSPVIREAEVTRTARKQSAQKRVLLQASQDENFGNTTPRNQVIPRTPSSFRQPFTPTSRSLLRQPD
ISCILGTGGKSPRLTQSSGFFGNLSMVTNLDDSNWAAAFSSQRSGLFTNTEPHSITEDVTISAVMLREDDPGEAA
SMSMFSDFLQSFLKHSSSTVFDLVEEYENICGSQVNILSKIVSRATPGLQKFSKTASMLWLLQQEMVTWRLLASL
YRDRIQSALEEESVFAVTAVNASEKTVVEALFQRDSLVRQSQLVVDWLESIAKDEIGEFSDNIEFYAKSVYWENT
LHTLKQRQLTSYVGSVRPLVTELDPDAPIRQKMPLDDLDREDEVRLLKYLFTLIRAGMTEEAQRLCKRCGQAWRA
ATLEGWKLYHDPNVNGGTELEPVEGNPYRRIWKISCWRMAEDELFNRYERAIYAALSGNLKQLLPVCDTWEDTVW
AYFRVMVDSLVEQEIQTSVATLDETEELPREYLGANWTLEKVFEELQATDKKRVLEENQEHYHIVQKFLILGDID
GLMDEFSKWLSKSRNNLPGHLLRFMTHLILFFRILGLQTKEEVSIEVLKTYIQLLIREKHTNLIAFYTCHLPQDL
AVAQYALFLESVTEFEQRHHCLELAKEADLDVATITKTVVENIRKKDNGEFSHDLAPALDTGTTEEDRLKIDVI
DWLVFDPAQRAEALKQGNAIMRKFLASKKHEAAKEVFVKIPQDSIAEIYNQCEEQGMESPLPAEDDNAIREHLCI
RAYLEAHETFNEWFKHMNSVPQKPALIPQPTFTEKVAHEHKEKKYEMDFGIWKGHLDALTADVKEKMYNVLLFVD
GGWMVDVREDAKEDHERTHQMVLLRKLCLPMLCFLLHTILHSTGQYQECLQLADMVSSERHKLYLVFSKEELRKL
LQKLRESSLMLLDQGLDPLGYEIQL

CCTTCCAAGTAACTGGGATTACAGGCATGTACCACCATACCAGCTGATTTTTTTGTATTTTTAGTAAAGACAGGG TTTCACCATGTTAGCCAGGCTGATCTTGAACTCCTAAACTCAAGTGATCTACTCACCTCAGCCTCCCAAAATGCT GGGATTACAGATGTGAGGCACCTGGCCTCAGATTTTTGATACTCTTAAACCTTCTGATCCTTAGTTTCTCTCCC AAAATACTCTTTCTAGGTTAAAAAAAAAAGGCTCTTATATTTGGTGCTATGTAAATGAAAATGTTTTTTAGGTT TTCTTGATTTAACAATAGAGACAGGGTCTCCCTGTGTTGCCCAGGCTGGTCTCGAACTCCTGGGCTCAAGAGATC  $\tt CTCCTGTCTTGGCCTCGCAAAGTGCTAAGTAGGATTACAGGCGTTAGCCACCACACCCGGCTGTAAAAATGTACT$ TATTCTCCAGCCTCTTTTGTATAAACCATAGTAAGGGATGGGAGTAATGATGTTATCTGTGAAAATAGCCACCAT TTACCCGTAAGACAAAACTTGTTAAAGCCTCCTGAGTCTAACCTAGATTACATCAGGCCCTTTTTCACACAAA AAAATCCTTTATGGGATTTAATGGAATCTGTTGTTTCCCCCTAAGTTGAAAAACAACTCTAAGACACTTTAAAGT ACCTTCTTGGCCTGGGTTACATGGTTCCCAGCCTAGGTTTCAGACTTTTGCTTAAGGCCCAGTTTTAGAAACCCGT TCTTTCTGAATTATTCAGAAATTATGCATCATTTTCCTTCAAGAATGACAGGGTCAGCATGTGGAATTCCAAGAT ACCTCTTGACTTCCTCTAAGCTCCGTGTTTGGTCAGTGGAGGCCCATCCGAGCTCAGCACTGAGAAGTGTTAGT TTCTTTGGGACCCATCTACCCTGACCACATCATGATGTTCATCTGCAGCTGTTGCAAGGTGTTCAGATTGTATAA ACATAAATGTCACAAAAACTTTAAAAGAAGTGCAATTCTCAAAAGGTTAGGTGGACTAAAGCATTCTGTAAAGCA ACTGCTAATAATGAGCTTACAGTGGATTTGAATTTGAAAAATATAGTAACAAGCCTGTCAAATATCTGCAAGAAC AAATTCAAGAAAAAGGACTACGGAAAGTTCAGGACATCAAAGAAGTCAGGCAAAACTCATCTTGACCCCTGTTGC AGGCAAAGGAACGCAGCTGGAAGAAAAGATGATATAACAGTTAACAGGATGCAGACATGGCAGAGGTTTCCTAAA AATCTCATTATCTATAACCATTTCTATATTTACATTTGAAAATCTCCTTTGGAGACTTAGAACCTCTAAATTATT GACTTATTTTTATATAAGGTCACTCCGATGAAAGGTGATTACAAAATCATCTACATTGCTGTCTACAAAACAGA TAATATGGATGTTTGATCGCATCTCATTGTTAACTCTTTACTGATATGTTTGTAAATACAGAAGTGAAATGTGG

GTAAACCAGCCGGAGCGCGCGGCGCAGGACCGCCGTGGCGCCTAGAGTAGCGACCCGGGGGAGCGCGGG  ${\tt GCGACGCTGGCTGCAGGGGACCCGGTGACAGCGTGAGAGGTTCGCAGAGTACTAGGTTTTGACAAGCTTGCATC} {\color{red} \underline{\bf AT}}$ <u>G</u>CGTGAGTATAAGCTAGTCGTTCTTGGCTCAGGAGGCGTTGGAAAGTCTGCTTTGACTGTACAATTTGTTCAAGG AATTTTTGTAGAAAAATACGATCCTACGATAGAAGATTCTTATAGAAAGCAAGTTGAAGTAGATGCACAACAGTG TATGCTTGAAATCTTGGATACTGCAGGAACGGAGCAATTTACAGCAATGAGGGATTTATACATGAAAAATGGACA AGGATTTGCATTAGTTTATTCCATCACAGCACAGTCCACATTTAACGATTTACAAGACCTGAGAGAACAGATTCT TCGAGTTAAAGACACTGATGATGTTCCAATGATTCTTGTTGGTAATAAGTGTGACTTGGAAGATGAAAGAGTTGT AGGGAAGGAACAAGGTCAAAATCTAGCAAGACAATGGAACAACTGTGCATTCTTAGAATCTTCTGCAAAATCAAA AATAAATGTTAATGAGATCTTTTATGACCTAGTGCGGCAAATTAACAGAAAAACTCCAGTGCCTGGGAAGGCTCG CTTTAAGAGGCGGATGAAAGCTACTATATCAGTTTGCACATTCTAATCACTTTCCAGTATCACAAGAGAGATTTT TACTTATATAATAGTCCTAGAGTTTGCAGCTGGTAAAACCAGAGGCTACATCCAGTATTACTGCTAAGAGACATT CTTCATCCACCAATGTTGTACATGTATGAAAATGGTGTACTGTATACTTTAACATGCCCCATACTTTGTATTGGA TATTGTACAAAATAAGCGCTTTGATTAACACAGCTATATAGTTTTTTAAATTTTTAAAAAAACCTGTGGAGACGGT GATCTTGTCTTTAAAACATGATAGTCCTTTCAGTATAATGTCTTAGATTAAAGACGTTGCCTTTAATATCTGTTG TAGTCGTGTGTACAGTGGGGGTCTACAACAAGAAGTGTATATTTTCAAACAATTTTTTAATGATTTAACAATTTT TGCAATACCAAATATACAGGTTTAGTATTTTTGCCTGTTAGTGATTGTTTCACATGTGTAACGTTTTGGTTGAGA TGTTAAATGGTGGACGAGTACTGTGGATGTGAATGTGGGAAGTAATTTTAATCATATGTAATTGGTCACAAGGCC TAATTTGCAGTAACTATTGCTGTTTTATTTAACAATGCCTTGTTGCTTTGTATGCATTAATGTTTGGATGTAAAG ATTGTGTGTCTATCCAACAGGGAGCCACAGTATTTAAATTGACCAACCTAATGTTACAACTACTTTGAGGTGGCC 

 ${\tt MREYKLVVLGSGGVGKSALTVQFVQGIFVEKYDPTIEDSYRKQVEVDAQQCMLEILDTAGTEQFTAMRDLYMKNG} \\ {\tt QGFALVYSITAQSTFNDLQDLREQILRVKDTDDVPMILVGNKCDLEDERVVGKEQGQNLARQWNNCAFLESSAKS} \\ {\tt KINVNEIFYDLVRQINRKTPVPGKARKKSSCQLL} \\ {\tt CONTROL OF CONTROL OF$ 

MSGALDVLQMREEDVLKFLAAGTHLGGTNLDFQMEQYIYERKSDGIYIINLKRTWEKLLLAAHAIVAIENPADVS VISSRNTGQTAVLKFAAATGATPIAGRFTPGTFTNQIQAAFREPRLLVVTDPRADHQPLTEASYVNLPTIALCNT DSPLRYVDIAIPCNNKGAYSVGLMWWMLAREVLCMLGTISCEHPWEVMPDLYFYRDPEEIEKEEQAAAEKAVTKE EFQGEWTAPAPEFTAIQPEVADWSEGVQVPSVPIQQFPTEDWSSQPAMEDWSAAPTAQATEWVGATTDWS

 ${\tt TTTGATTGCCTCCGGTACTGTGAGGAAAGGACACGACTCT} \underline{{\tt ATC}} {\tt GTGAGGACTGATGGACATACATTATCTGAGAA}$ CCATGACGAAAACATGTACTACAGCCAGTCTTCTATGTTTCCACATCGGTCAGAAAAAGATATGCTGGCATCACC ATCTACATCAGGTCAGCTGTCTCAGTTTGGGGCAAGTTTATACGGGCAACAAAGTGCACTAGGCCTTCCAATGAG GGGGATGAGCAACAATACCCCTCAGTTAAATCGCAGCTTATCACAAGGCACTCAGTTACCGAGCCACGTCACGCC AACAACAGGGGTACCAACAATGTCACTTCACACGCCTCCATCTCCAAGCAGGGGTATTTTGCCTATGAATCCTAG GAATATGATGAACCACTCCCAGGTTGGTCAGGGCATTGGAATTCCTAGCAGGACAAATAGCATGAGCAGTTCAGG TTTTAATGGAACAGACGGAAGTGAAAATGTGACAGGATTGGACCTTTCAGATTTCCCAGCATTAGCAGACCGAAA CAGGAGGGAAGGAAGTGGTAACCCAACTCCATTAATAAACCCCTTGGCTGGAAGAGCTCCTTATGTTGGAATGGT AACAAAACCAGCAAATGAACAATCCCAGGACTTCTCAATACACAATGAAGATTTTCCAGCATTACCAGGCTCCAG CTATAAAGATCCAACATCAAGTAATGATGACAGTAAATCTAATTTGAATACATCTGGCAAGACAACTTCAAGTAC ATTTATCAGGGCAGCAGAGACCCAGGAATGGTACATCTTGCATTAGGAAGTGACTTAACAACATTAGGCCT  ${\tt CAATCTGAACTCTCCTGAAAATCTCTACCCCAAATTTGCGTCACCCTGGGCATCTTCACCTTGTCGACCTCAAGA}$ CCGATATGGTGAAGACCTTCTCTATCTCTATTACATGAATGGAGGAGACGTATTACAACTTTTAGCTGCAGT GGAGCTTTTTAACCGTGATTGGAGATACCACAAAGAAGAACGAGTATGGATTACCAGGGCACCAGGCATGGAGCC AACAATGAAAACCAATACCTATGAGAGGGGAACATATTACTTCTTTGACTGTCTTAACTGGAGGAAAGTAGCTAA GGAGTTCCATCTGGAATATGACAAATTAGAAGAACGGCCTCACCTGCCATCCACCTTCAACTACAACCCTGCTCA GCAAGCCTTC<u>TAA</u>AAAAAAAAAAAAAAAAAAAAAAAA

MVRTDGHTLSEKRNYQVTNSMFGASRKKFVEGVDSDYHDENMYYSQSSMFPHRSEKDMLASPSTSGQLSQFGASL
YGQQSALGLPMRGMSNNTPQLNRSLSQGTQLPSHVTPTTGVPTMSLHTPPSPSRGILPMNPRNMMNHSQVGQGIG
IPSRTNSMSSSGLGSPNRSSPSIICMPKQQPSRQPFTVNSMSGFGMNRNQAFGMNNSLSSNIFNGTDGSENVTGL
DLSDFPALADRNRREGSGNPTPLINPLAGRAPYVGMVTKPANEQSQDFSIHNEDFPALPGSSYKDPTSSNDDSKS
NLNTSGKTTSSTDGPKFPGDKSSTTQNNNQQKKGIQVLPDGRVTNIPQGMVTDQFGMIGLLTFIRAAETDPGMVH
LALGSDLTTLGLNLNSPENLYPKFASPWASSPCRPQDIDFHVPSEYLTNIHIRDKLAAIKLGRYGEDLLFYLYYM
NGGDVLQLLAAVELFNRDWRYHKEERVWITRAPGMEPTMKTNTYERGTYYFFDCLNWRKVAKEFHLEYDKLEERP
HLPSTFNYNPAQQAF

CTGGTCCCGAGCACGAGCTGTGAGGGGATTCACTTGTGTGCGGAACTCCTCGGAACCATGGCGTCCCTTTCCCTT GCCATCGCCATTGGAGACTTGGTAAAGAGCACCTTGGGACCCAAAGGCATGGACAAAATTCTTCTAAGCAGTGGA CGAGATGCCTCTCTTATGGTAACCAATGATGGTGCCACTATTCTAAAAAACATTGGTGTTGACAATCCAGCAGCT AAAGTTTTAGTTGATATGTCAAGGGTTCAAGATGATGAAGTTGGTGATGGCACTACCTCTGTTACCGTTTTAGCA GCAGAATTATTAAGGGAAGCAGAATCTTTAATTGCAAAAAAGATTCATCCACAGACCATCATAGCGGGTTGGAGA GAAGCCACGAAGGCTGCAAGAGAGGCGCTGTTGAGTTCTGCAGTTGATCATGGTTCCGATGAAGTTAAATTCCGT CAAGATTTAATGAATATTGCGGGCACAACATTATCCTCAAAACTTCTTACTCATCACAAAGACCACTTTACAAAG TTAGCTGTAGAAGCAGTTCTCAGACTGAAAGGCTCTGGCAACCTGGAGGCAATTCATATTATCAAGAAGCTAGGA GGAAGTTTGGCAGATTCCTATTTAGATGAAGGCTTCCTGTTGGATAAAAAAATTGGAGTAAATCAACCAAAACGA ATTGAAAATGCTAAAATTCTTATTGCAAATACTGGTATGGATACAGACAAAATAAAGATATTTGGTTCCCGGGTA AGAGTTGACTCTACAGCAAAGGTTGCAGAAATAGAACATGCGGAAAAGGAAAAATGAAGGAAAAGTTGAACGT GCTGGTGTCATGGCTATTGAGCATGCAGATTTTGCAGGTGTGGAACGCCTAGCTCTTGTCACAGGTGGTGAAATT GCCTCTACCTTTGATCACCCAGAACTGGTGAAGCTTGGAAGTTGCAAACTTATCGAGGAAGTCATGATTGGAGAA GACAAACTCATTCACTTTCTGGGGTTGCCCTTGGTGAGGCTTGTACCATTGTTTTTGCGTGGTGCCACTCAACAA ATTTTAGATGAAGCAGAAAGATCATTGCATGATGCTCTTTGTGTTCTTGCGCAAACTGTAAAGGACTCTAGAACA GTTTATGGAGGAGGCTGTTCTGAGATGTTGATGGCTCATGCTGTGACACAGCTTGCCAATAGAACACCAGGCAAA GAAGCTGTTGCAATGGAGTCTTATGCTAAAGCACTGAGAATGTTGCCAACCATCATAGCTGACAATGCAGGCTAT GACAGTGCAGACCTGGTGGCACAGCTCAGGGCTGCTCACAGTGAAGGCAATACCACTGCTGGATTGGATATGAGG GAAGGCACCATTGGAGATATGGCTATCCTGGGTATAACAGAAAGTTTTCAAGTGAAGCGACAGGTTCTTCTGAGT GCAGCTGAAGCAGCAGAGGTGATTCTGCGTGTGGACAACATCATCAAAGCGGCACCCAGGAAACGTGTCCCTGAT CACCACCCTGTTAAGCATTCCCACGTGCTGTCGATCTTTGGACCAGTTTCTAGCAAAGTTGTGTTTGAAAGATA CTCTATTAAAGAAGACTGTGGAATCTGTTTATCGGTGCCCATTATATCCTTAAGTTTGGATATTTAGCTGACCTT CGCTTTAACATAGGTCTAATTTATTTGCCGTGTCATTTTCCATACAAATCAGTTGATTTAAAAAAAGTTCATTTCT CATACTGTGCATTAAAATAAAAATTTGAACAAT

CGGCGTTCTCCACCTGCGCGGGCCTGAATGGCCTTCAGGAGCACAGTCGGCCTGAGGAGTTGACGGTTACTCACC GCCGTGAGCCCAAGTAACTCGCCCTCCTTCGGCTAAAAACCCTCCGCCTGGGCCCGCGCGACAGGAGCGCGGTCT  $\tt CTGAGGGGAGCGGCGACCCCGCCAGCCCGGTCTCTTTCCCTGGCGGCGGCGGCTTCTTCCGTGGGACAAT \underline{ATG} T$ TCAAGAGAATGGCCGAATTTGGGCCTGACTCCGGCGGGAGAGTAAAGGGTGTTACTATCGTTAAACCAATAGTTT ACGGTAATGTTGCTCGGTATTTTGGAAAGAAAAGAGAAGAAGATGGGCACACTCATCAGTGGACAGTATATGTGA AACCATATAGAAATGAGGATATGTCAGCATATGTGAAGAAAATCCAGTTTAAATTACATGAAAGCTATGGCAATC CTTTAAGAGTTGTTACTAAACCTCCATATGAAATTACTGAAACAGGATGGGGTGAATTCGAAATAATCATCAAAA TATTTTCATTGACCCTAATGAAAGACCTGTAACCCTGTATCATTTGCTAAAGCTGTTTCAATCAGACACCAATG CAATGCTGGGGAAAAAGACAGTGGTTTCAGAGTTCTATGATGAAATGATATTTCAAGACCCAACAGCAATGATGC AACAATTATTGACAACATCTCGTCAGCTAACATTAGGAGCCTATAAGCATGAAACAGAATTTGCAGAGCTTGAAG AAGCAAGTCGTGAAACTATAAATTGTTTAAAAAATGAAATCAGAAAACTTGAAGAAGATGACCAAGCAAAAGACA  ${\tt TA}\underline{{\tt TAAA}}{\tt ACAGTTCTCATGAGAACTTGGTAGTAAGCTAAACTGAAAATAAGGTGGGCTTCACTGGAGAAATGGACTT}$ ACTGCAAATGCTGTGATGTTTCTTAGAGGAACTTCATATACAGCTGTTGACCATGAATTTCTTAGCAATAGGAAT TTGTACTATTTAAGCAATCTTTAATGGAAAATATGTGTGTAAGAATGGATGCTATATAGGTATTTTACCAACCCA TTTTAAGAAAATTCTATGATATTAAGCACAGTTTTTAAAAATGTTTATTGTAGTATATGTATAGCTTATTACCCT TTTGACAGGCATCAAAATTTCATTATAAAGTATTACTTGTACAAATTTTGTACTTCTTTAGTGGCTAGAATTAGT GAAGAAACTTAATGTGTATATTTAATTTCTTCAAGTTCTTACCTGCCCCCATCCTTTTTTGTATATGATGTGTCC 

MFKRMAEFGPDSGGRVKGVTIVKPIVYGNVARYFGKKREEDGHTHQWTVYVKPYRNEDMSAYVKKIQFKLHESYG NPLRVVTKPPYEITETGWGEFEIIIKIFFIDPNERPVTLYHLLKLFQSDTNAMLGKKTVVSEFYDEMIFQDPTAM MQQLLTTSRQLTLGAYKHETEFAELEVKTREKLEAAKKKTSFEIAELKERLKASRETINCLKNEIRKLEEDDQAK DI

 $\tt CTAGCACTCTGACCTAGCAGTCAAC\underline{ATG} AAGGCTCTCATTGTTCTGGGGCTTGTCCTCCTTTCTGTTACGGTCCA$ CCTAGCAAACTGGATGTTTTGGCCAAATGGGAGAGTGGTTACAACACACGAGCTACAAACTACAATGCTGGAGA TAATGCCTGTCATTTATCCTGCAGTGCTTTGCTGCAAGATAACATCGCTGATGCTGTAGCTTGTGCAAAGAGGGT TGTCCGTGATCCACAAGGCATTAGAGCATGGGTGGCATGGAGAAATCGTTGTCAAAACAGAGATGTCCGTCAGTA  $\tt TGTTCAAGGTTGTGGAGTG\underline{TAA}CTCCAGAATTTTCCTTCTCAGCTCATTTTGTCTCTCACATTAAGGGAGTA$ TATGGCCTTTCTTAAGAGATATAATGTTCACTAATGTGGTTATTTTACATTAAGCCTACAACATTTTTCAGTT TGCAAATAGAACTAATACTGGTGAAAATTTACCTAAAACCTTGGTTATCAAATACATCTCCAGTACATTCCGTTC TTTTTTTTTTTTGAGACAGTCTCGCTCTGTCGCCCAGGCTGGAGTGCAGTGGCGCAATCTCGGCTCACTGCAACC  $\tt CCCGGCTAATTTTTTGTATTTTAGTAGAGACAGGGTTTCACCGTGTTAGCCAGGATGGTCTCGATCTCCTGACC$ TTGTGATCCACCCACCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACTGCGCCCGGCCACATTCAGT TCTTATCAAAGAAATAACCCAGACTTAATCTTGAATGATACGATTATGCCCAATATTAAGTAAAAATATAAGAA AAGGTTATCTTAAATAGATCTTAGGCAAAATACCAGCTGATGAAGGCATCTGATGCCTTCATCTGTTCAGTCATC TCCAAAAACAGTAAAAATAACCACTTTTTGTTGGGCAATATGAAATTTTTAAAGGAGTAGAATACCAAATGATAG  ${\tt AAACAGACTGCCTGAATTGAGAATTTTGATTTCTTAAAGTGTTTTCTTAAATTGCTGTTCCTTAATTTGAT}$ CAAATGTGAAGTTATGCATGATGTAAAAAATACAAACATTCTAATTAAAGGCTTTGCAACAC

PCT/US2003/028547

#### 4044/6881 FIGURE 3731

CCCTGAGTCACTGCCTGCGCAGCTCCGGCCGCCTGGCTCCCCATACTAGTCGCCGATATTTGGAGTTCTTACAAC ATGGCAGACATTGACAACAAGAACAGTCTGAACTTGATCAAGATTTGGATGATGTTGAAGAAGTAGAAGAAGAA GAAACTGGTGAAGAAACAAAACTCAAAGCACGTCAGCTAACTGTTCAGATGCAAAAATCCTCAGATTCTTGCA AGACGAGTGAATGCTCTCAAAAACCTGCAAGTTAAATGTGCACAGATAGAAGCCAAATTCTATGAGGAAGTTCAC GATCTTGAAAGGAAGTATGCTGTTCTCTATCAGCCTCTATTTGATAAGCGATTTGAAATTATTAATGCAATTTAT AAGATTGAAGATGAGAAAAAAGATGAAGAAAAAGAAGAACCCCCAAAGGAATTCCTGAATTTTGGTTAACTGTTTTT AAGAATGTTGACTTGCTCAGTGATATGGTTCAGGAACACGATGAACCTATTCTGAAGCACTTGAAAGATATTAAA GTGAAGTTCTCAGATGCTGGCCAGCCTATGAGTTTTGTCTTAGAATTTCACTTTGAACCCAATGAATATTTTACA AATGAAGTGCTGACAAAGACATACAGGATGAGGTCAGAACCAGATGATTCTGATCCCTTTTCTTTTGATGGACCA GAAATTATGGGTTGTACAGGGTGCCAGATAGATTGGAAAAAAGGAAAGAATGTCACTTTGAAAAACTATTAAGAAG TTTGCCCCTCCTGAAGTTCCTGAGAGTGGAGATCTGGATGATGATGCTGAAGCTATCCTTGCTGCAGACTTCGAA ATTGGTCACTTTTTACGTGAGCGTATAATCCCAAGATCAGTGTTATATTTTACTGGAGAAGCTATTGAAGATGAT ATAACCTGCACTGGTCTACCTTCTGCTTCCCTGGAAAGGATGAATTTACATCATTTGACAAGCCTATTTTCAAGT TATTTGTTGTTTGTTTGCTTGTTTTTGTTTTTGCAGCTAAAATAAAAATTTCAAATACAATTTTAGTTCTTACAA GATAATGTCTTAATTTTGTACCAATTCAGGTAGAAGTAGAGGCCTACCTTGAATTAAGGGTTATACTCAGTTTTT AACACATTGTTGAAGAAAAGGTACCAGCTTTGGAACGAGATGCTATACTAATAAGCAAGT

## 4045/6881 FIGURE 3732A

GCAACCCGGGAAACGTCAAAACAAACAGAAGGACTTGGGATTCCGGAGCAGTCGCCCCTATCGCTGCTCCTGCAG GTTGGCCAACCTGGATACTAACAAGCTAGAGGCCATCGCTCAGGAGATTTACGTAGACCTGATAGAGGATTCTTG TTTGGGATTCTGCTTTGAGGTGCACCGGGCAGTCAAGTGTGGCTACTTCTACCTGGAGTTCGCAGAGACTGGTAG CGTGAAGGATTTTGGCATTCAGCCAGTGGAAGACAAAGGAGCGTGCCGCCTCCCGCTTTGCTCCCGGAGA ACCTGGGAATGGGCCTGATCAGCAGCTGCAGCGCTCACCTCCGGAATTCCAGTAGCTGCAAAATGAGAGTCTGAA AGTGGCCAGGACAATAACATAGACTGGTCCTGTGGCTTCGAGGAGTAAGCTAAGTAGAAAAAAGTAGAAAAATCA GACAAAAGTTTTAATTCCCCCTTGAAGATCCTAGCATTTAAAAACCCAAAGTGGATAATTTAGGAATCCTTTTTT TAAAGTGTATTACCTGGAGCAAGCTCTGAAGCCCTGGGCAGGAGGAGCTGCACAGCCTGCGGGCCATGCAGTGCC TGTTGATCTCTAAACACACCAGGATGTGCGCAAGATCCTGTAGTGCCCCCAGTGCACAGGTGAGCAGTTGTGTGC  ${\tt TACAGTTCGTCAGGCCGTGATCAGTGGCCTGCAGTGGGACTGCTCCTTTGATATCTGAACCTCTGTTATGGGCTT}$  $\tt CTCTGAGACAAGTAAATGTCAGGTGCAAGATCTGGATACTAACAGTTTCAGTTTGGGAAATCCAAGAAAAAGAAT$ TATCAAGTTTGATAGGGAAGCTCTGTAGCCTTGACTCCAGCAAGAAAAGGTCAAAACCACGTGTTTCCCAAA CTCCAACCTGGTGGCATAGGCTTGGCAAATGGACAACTTGGTTGTCCAGACAGGTTGAGGATTCGGTTATGATCC CCTGGGGAGGTAGCAGGGACCTCTGCAACTATGCATGATTTCTCAAACTTCAAGATTCATGTCTGGATGTATTAT GCTGTGGATATAAGTTTAGTAGGGCGGTCATTTCCTACTCTGAGTTACTGGTTACCTAGCCAGTCCATGGGTGTG ACTTGGTCCTTAAGTCAGGTCACTATCTGCCTCCCACCCTGGGGGCAGGACTGAAGTATGGAAGAGCATCATGGC TGTGCAGGAGGCTGTGGTTTGAAAACTGAGCCCAGAGGGCACTTTCAGCTGCCCTCAATAATGTGAATGGATTAG TGCTAGGAGCCAAGGAGCAGGACTGGATTATCTCATCTGACTGTGGCAGAATCCTGTTGAATGTCCCTGTTTTC ATAGTCCTTTCCACTCGGTCCCCTTTGGATCTTCTTGACAACAGGAGCAGTCCTTTTATTGTTAGAAGTCAGAGA AAGACCTCCAGAATCTCCTGACTTTAGGGAATGGTATAGGGGAAGATGGGAAGTAAGAGTCACATATCAAAACTA CCCTCCACTTTATTCCCTGAGCGAGGGTTTATGAAGTATAAAGGGGTGGGAGCCCCGAGGTGAGCGGGAACGGTG  $\tt CCTGTGTTCCTCCTGTCCCCTGCTCCACTGCCTATCTGGTGCCCCAGGTGCTGCCACTCCAGCTGTCACAT$ GATTGGAATTGGAAGAGAACTTAATTTTTTGTATT<u>TAA</u>AATGCAGTGTCATGCCTATAAGCATTTCTCCTATATA GGACTGCTTTGCTAGTGTGCCCTCTTGCTGTGTCTTACTTCATAAGGAGTTGTATCTTCCCACCTCCATTTCAAT ACTGCCGGTTAGGACCTAAGTAGAAGAGCAGTAAAGGCTGATTGACACACAGGGGGATGGAGTTGGTCCTTGTCC ATTCTCTCACCCTTGCTGTGCATGTATCAATCCTTATCCCAGAAGGTACTATTTAGACTGTATAGACTGATTTAG ATTACATACTTTAGAGGATTAAGGAAACCATAGAGTTTGGGCCTTGGAACTGTTACTGCCTTGTCCTAGAGTTGT AAGAGCTAAAATTAATTTGGAGATATCTTTGCCCTTGACTTGTAGACGACATCTAAGAGGATGAAGAAAGGAGAGT CTAAGTGAGACTCTGGCCTACTTCCTAACAATGTCTTGGAAGTGGGATGATGGTAAAGGAGAAAGGCCACAGTCC AATCCCTCTGCCTTCAGATAGGGAACTCAAATCCTGAAATTACTGTTTTCTTCTGGCCTTTTCTCCTGGTTAGA TACCAATAGGGCAGTAGCCTCCTGCCCTGGATGGGTATAAGGTGGGCTTGGTCCAACAGGTGCCCAGAGGGTACA CTTCCTTTTAATAGCAGAATTCCTATTTTTCCCTTGATTATGTGTATTGATCACCCTGCAATCCTATTATGTATC TTTTCTTCCATACATTAGTTCCCACCATCGCATGCCCAGGGACCACTGCCTGGCATTATCGCATGCTGGGATCAT CGGGGGAGGGTAGTGAAGCTCACCACTGTCCTTTGTTTTGGAGATTTTTATTTTTGCATAAGTAGTCCATCCTAT 

# 4046/6881 FIGURE 3732B

AACAGTAATAAAATTTTAAAAAATG

WO 2004/030615 PCT/US2003/028547

# 4047/6881 FIGURE 3733

MFSYLILCPSRGSSLICLAWPCVPPVPCSTAYLVPQVLLATPAVTLNSFNSALNAPASEACPISFFLASVFFFSF FFPCFCRRLRGESFLWLPLLRLELEENLIFCI

MTNTKGKRRGTPYMFSRPFRKHGVVCLATYMRIYKKGDIVDIKGMGTVQKGMPHKCYHGKTGRVYNVTQHTVGIV VNKQVKGKILAKRINVRIEHIKHSKSEDSFLKRVKENDQKKKEAKEKGTWVQLKRQPAPPREAHFVRTNGKEPEL LEPIPCEFMA

#### 4050/6881 FIGURE 3736A

ATGAAGATGGCGGACGCGAAGCAGAAGCGGAACGAGCAGCTGAAACGCTGGATCGGCTCCGAGACGGACCTCGAG GCCCTGCACCAGGCTTGCATTGATGACAATGTTGATATGGTGAAGTTTCTGGTAGAAAATGGAGCAAATATTAAT CAACCTGATAATGAAGGCTGGATACCACTACATGCAGCAGCTTCCTGTGGATATCTTGATATTGCAGAGTTTTTG ATTGGTCAAGGAGCACATGTAGGGGCTGTCAACAGTGAAGGAGATACACCTTTAGATATTGCGGAGGAGGAGGCA ATGGAAGAGCTACTTCAAAATGAAGTTAATCGGCAAGGGGTTGATATAGAAGCAGCTCGAAAGGAAGAAGAACGG AATATTAAAGACTATGATGGCTGGACACCTCTTCATGCTGCAGCTCATTGGGGTAAAGAAGAAGCATGTCGAATT TTAGTGGACAATCTGTGTGATATGGAGATGGTCAACAAAGTGGGCCCAAACAGCCTTTGATGTAGCAGATGAAGAC ATTTTAGGATATTTAGAAGAGTTGCAAAAGAAACAAAATCTGCTCCATAGTGAAAAACGGGACAAGAAATCTCCA CTAATTGAATCAACAGCAAATATGGACAATAATCAGTCACAGAAGACCTTTAAAAAACAAAGAGACGTTGATTATT GATGAGTCTAGCTGCTCTAGTGAAGAAGATGAGGAAGATGACTCGGAATCAGAAGCTGAAACAGATAAGACAAAA CCCCTGGCTTCTGTAACTAATGCCAACACTTCTAGTACACAAGCAGCTCCTGTAGCTGTTACAACACCTACTGTG TCATCAGGTCAAGCAACACCTACATCACCTATTAAAAAGTTTCCAACCACAGCTACAAAAATTTCTCCCAAAGAA GAAGAGAGAAAAGATGAGTCTCCTGCAACTTGGAGGTTAGGACTTAGAAAGACGGGCAGCTATGGTGCACTTGCT GAAATCACAGCATCTAAAGAGGGTCAGAAAGAAAAAGATACTGCAGGTGTTACACGTTCAGCTTCAAGTCCCAGA CTTTCCTCCTCTTTGGATAATAAAGAAAAGGAGAAAGATAGTAAAGGAACTAGGCTTGCATATGTTGCACCTACA GTTACCTCTGCAGCTGGGCTTCAGAAAAGCCTGCTTTCCAGCACAAGCACTACTACAAAGATTACAACGGGTTCT GTTCCTACGGCAGTGACCATTCCTGTTGCTCCAACTGTTGTAAATGCTGCAGCTTCTACCACAACCCTGACTACA TTAACTGATCTTCAAGAAGCTGAGAAAACAATAGGAAGAAGTCGTTCTACCCGAACCAGAGAACAAGAAAATGAA GAAGATGAATATAAACAAAAGTACTCCAGAACGTATGATGAGACTTACCAGCGTTATAGGCCAGTATCAACTTCA AGTTCAACCACTCCATCCTCTCCACTTTCTACTATGAGCAGTTCACTGTATGCTTCAAGTCAACTAAACAGGCCA AATAGTCTTGTAGGCATAACTTCTGCTTACTCCAGAGGAATAACAAAAGAAAATGAAAGAGAGGGGAGAAAAAAGA GGATCCAATAAGAAAGAAACTCAGACGGATTCCATTTCTAGATATGAAACCAGTTCTACATCAGCTGGTGATCGA TATGATTCCTTGCTGGGTCGCTCTGGATCATACAGTTACTTAGAAGAAAAACCTTACAGCAGCAGCCTAGAA AAGGATGACTCAACTGACTTTAAAAAGCTTTATGAACAAATTCTAGCTGAAAATGAAAAGCTGAAGGCACAGCTA CTCAAAATGTTACCAGACCTAAAAGCAGACAACCAGAGGCTAAAGGATGAAAATGGGGCCTTGATCAGAGTTATA AGCAAACTTTCCAAATAAAAAAAAAAAAGCAGCAAGTAATGGAATTGCACATATTAGTAACCCAGTGGACCATA ATTGGCAGTCACTGGAAGTCTGGGAAGAATCCTTGGAGACTGTCATTTTCGGATATCCTGCCAAATGCCCTCTTA TACAGCTCCAGCATATAAGGAAAGTGTTCAAGGCCAGATATGCCTCAGATATTTAACCAGTAAGCCTTAGTTGTA CATAAATACTTTTGTGTCAACAAAAACTTTCAGCTCTCACAGAAGACAGTTACTCAACATTTTTTGATGTGCCAC AGTTTCGAGTTTTTCGATATTTTAAATTTTTTGGCTTTTCATCTAAGTTTGGGTTTGTATTTTTTCCTTCTAAACT

#### 4051/6881 FIGURE 3736B

CAGCCTTGGAGGGAGGGATTAGAAGCCGCTAGACTTTTTTCCTCCCCTCTCAGTAGCACGGAGTCCGAATTAAT CAGCGGCTGCAGCTGGGTGCAGAGAGAACCTCCGGCTTTACTTCTGTCTCGTCTGCCCCAACCGCTAGCCTCGGC GCCCGAGGGGCGTCTGGTAGGCACCCCGCCCTCTCCCGCAGCTCGACCCCC<u>ATG</u>ATAGATACGCTCAGACCCGT GCCCTTCGCGTCGGAAATGGCGATCAGCAAGACGGTGGCGTGGCTCAACGAGCAGCTGGAGCTGGGCAACGAGCG GCTGCTGCTGATGGACTGCCGGCCGCAGGAGCTATACGAGTCGTCGCACATCGAGTCGGCCATCAACGTGGCCAT GGACCGCTTCACCCGGCGCTGTGGCACCGACACAGTGGTGCTCTACGACGAGAGCAGCAGCGACTGGAACGAGAA TACGGGCGGCGAGTCGGTGCTCGGGCTGCTCAAGAAGCTCAAGGACGAGGGCTGCCGGGCGTTCTACCTGGA AGGTGGCTTCAGTAAGTTCCAAGCCGAGTTCTCCCTGCATTGCGAGACCAATCTAGACGGCTCGTGTAGCAGCAG CTCGCCGCCGTTGCCAGTGCTGGGGGCTCGGGGGCCTGCGGATCAGCTCTGACTCTTCCTCGGACATCGAGTCTGA GGAGATCTTGCCCTTCCTCTACTTGGGCTGTGCCAAAGACTCCACCAACTTGGACGTGTTGGAGGAATTCGGCAT CAAGTACATCTTGAACGTCACCCCCAATTTGCCGAATCTCTTTGAGAACGCAGGAGAGTTTAAATACAAGCAAAT TATGCAGAAGCTCAATCTGTCGATGAACGACGCCTATGACATTGTCAAAATGAAAAATCCAACATATCCCCTAA CTTCAACTTCATGGGTCAGCTGCTGGACTTCGAGAGGACGCTGGGACTCAGCAGCCCATGTGACAACAGGGTTCC  $AGCACAGCAGCTGTATTTTACCACCCCTTCCAACCAGAATGTATACCAGGTGGACTCTCTGCAATCTACG\underline{TGA}AA$ GACCCCACACCCCTCCTTGCTGGAATGTGTCTGGCCCTTCAGCAGTTTCTCTTGGCAGCATCAGCTGGGCTGCTT TTAATACTAACAGAGAGATTTGCTCCATTCTCTTTGGAATAACAGGACATGCTGTATAGATACAGGCAGTAGGTT TGCTCTGTACCCATGTGTACAGCCTACCCATGCAGGGACTGGGATTCGAGGACTTCCAGGCGCATAGGGTAGAAC CAAATGATAGGGTAGGAGCATGTGTTCTTTAGGGCCTTGTAAGGCTGTTTCCTTTTGCATCTGGAACTGACTATA TAATTGTCTTCAATGAAGACTAATTCAATTTTGCATATAGAGGAGCCAAAGAGAGATTTCAGCTCTGTATTTGTG GTATCAGTTTGGAAAAAAAAATCTGATACTCCATTTGATTATTGTAAATATTTGATCTTGAATCACTTGACAGTG TTTGTTTGAATTGTGTTTGTTTTTTCCTTTGATGGGCTTAAAAGAAATTATCCAAAGGGAGAAAAGAGCAGTATGC CTTGACTTTACCAATTCTGATGACATCTTTACGGACACTATTATCACTAAGACCTTGTTATGGCGAAGTCTTTAG TCTTTTTCATGTATTTTCCTCATGATTTTTTCTCTTTATGTAGTTTGACTATGCCTTACCTTTGTAAATATTTTT GCTTGTGTTGTCGCAAAGGGGATAATCTGGGAAAGACACCAAATCATGGGCTCACTTTAAAA

MIDTLRPVPFASEMAISKTVAWLNEQLELGNERLLLMDCRPQELYESSHIESAINVAIPGIMLRRLQKGNLPVRA LFTRGEDRDRFTRRCGTDTVVLYDESSSDWNENTGGESVLGLLLKKLKDEGCRAFYLEGGFSKFQAEFSLHCETN LDGSCSSSSPPLPVLGLGGLRISSDSSSDIESDLDRDPNSATDSDGSPLSNSQPSFPVEILPFLYLGCAKDSTNL DVLEEFGIKYILNVTPNLPNLFENAGEFKYKQIPISDHWSQNLSQFFPEAISFIDEARGKNCGVLVHCLAGISRS VTVTVAYLMQKLNLSMNDAYDIVKMKKSNISPNFNFMGQLLDFERTLGLSSPCDNRVPAQQLYFTTPSNQNVYQV DSLQST

GTCTCTCTCCCCTCCGTCATGTCTAAGTCAGAGTCTCCTAAAGAGCCCGAACAGCTGAGGAAGCTCTTCATT GGAGGGTTGAGCTTTAAAACAACCGATGAGAGCCTGAGGAGCCATTTTGAGCAATGGGGAACGCTCACGGACTGT GTGGTAATGAGAGATCCAAACACAGAGCACTCCAGGGGGCTTTGGGTTCATCACACATGCCACTGTGGAGGAGGTG GATGCAGCCATGAATGCAAGGCCACATAAGGTGGATGGAAGAGTTGTGGAACCAAAGAGAGCTGTCTCAAGAGAA GATTCTCAAAGACCAGGTGCCCACTTAACTATGAAAAAGATATTTGTTGGTGGCATTAAACAATGAAGAACAACA CCTAAGAGATTATTTTGAACAGTATGGAAAAATTGAAGTGACTCAAATCATGACTCACTGAGGCAGTGCCAAGAA AAGGGGCTTTGCCTTTGTAACCTTTGACGACCATGACTCCGTGGATAAGACTGTCATTCAGAAATACCATACTGT GAATGGCCACAACTGTGAAGTTAGGAAAGCCCTGTCAAAGCAAGAGATGGCTAGGGCTTTATCCAGCCAAAGAGG  $\tt CTGAAGTGGTTCTAGAAACTTTGGCGGTGGTCGTGGAGGTGGTTTTTGGCAGGAATGACAACACTGGTAGTGGAGG$ AAACTTCAGTGGTGGTGGTGGATATGGTGGCAGTGGGGATGGCTATAATGGATTTGGTAATGATGGAAGCAATTT TGGAGGTGGTGGAAGCTACAATGATTTTGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCATGAAGGGAGG AAACTTTGGAGGCAGAAGCCCTGGCCCCTATGGTGGTGGAGGCCAATACTTTGCCAAACCATGAAACCAAGGTGG CTATGGTGGTTCCAGTAGCAGCAGTAGCTATGGCAATGGCAGAAGATTTTAATTAGGAAACAAAGCTTAGCAGGA GAGGAGACCAGAGAAGTGACAGGGAAGCTACAGGTTACAACAGATTGTGAACTCAGCCAAGCACAGTGGTGGCA GGGCCTAGCTGCTACAAAGAAGACCTGTTTTAGACAAATACTCATGGGTATGGGCAAAAAAACTCGAGGACTGTAT TTGTGACTAATTGTATAACAAGTCATTTTAGTTTCTGTTCTGTGGAAAGTGTAAAGCATTCCAACAAAGGGTTTC AATGTAGATTTTTTTTTTTTTTCCAAACATGCTGTTGATTGCTAAATGTAAGTCTGATCATGATGCAGAATAAA TGTCTTTTTT

TTTAACTGTGCTATGGAGTAGAAGCAGGAGGTTTTCAACCTAGTCACAGAGCAGCACCTACCCCTCCTTTC CACACCTGCAAACTCTTTACTTGGGCTGAATATTTAGTGTAATTACATCTCAGCTTTGAGGGCTCCTGTGGCAA  $\tt ATTCCCGGATTAAAAGGTTCCCTGGTTGTGAAAATACATGAGATAAATC\underline{ATG} \texttt{AAGGCCACTATCATCCTCCTTCT}$ GCTTGCACAAGTTTCCTGGGCTGGACCGTTTCAACAGAGAGGCTTATTTGACTTTATGCTAGAAGATGAGGCTTC TGGGATAGGCCCAGAAGTTCCTGATGACCGCGACTTCGAGCCCTAGGCCCAGTGTGCCCCTTCCGCTGTCA TCTGCTAGACCTGCAAAACAACAAAATAACCGAAATCAAAGATGGAGACTTTAAGAACCTGAAGAACCTTCACGC ATTGATTCTTGTCAACAATAAAATTAGCAAAGTTAGTCCTGGAGCATTTACACCTTTGGTGAAGTTGGAACGACT TTATCTGTCCAAGAATCAGCTGAAGGAATTGCCAGAAAAATGCCCAAAACTCTTCAGGAGCTGCGTGCCCATGA GAATGAGATCACCAAAGTGCGAAAAGTTACTTTCAATGGACTGAACCAGATGATTGTCATAGAACTGGGCACCAA TCCGCTGAAGAGCTCAGGAATTGAAAATGGGGCTTTCCAGGGAATGAAGAAGCTCTCCTACATCCGCATTGCTGA TACCAATATCACCAGCATTCCTCAAGGTCTTCCTCCTTCCCTTACGGAATTACATCTTGATGGCAACAAAATCAG CAGAGTTGATGCAGCTAGCCTGAAAGGACTGAATAATTTGGCTAAGTTGGGATTGAGTTTCAACAGCATCTCTGC TGTTGACAATGGCTCTCTGGCCAACACGCCTCATCTGAGGGAGCTTCACTTGGACAACAACAAGCTTACCAGAGT  ${\tt ACCTGGTGGGCTGGCAGAGCATAAGTACATCCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAGA$  ${\tt AAGTGACTTCTGCCCACCTGGACACACACACAAAAAGGCTTCTTATTCGGGTGTGAGTCTTTTCAGCAACCCGGT}$ CCAGTACTGGGAGATACAGCCATCCACCTTCAGATGTGTCTACGTGCGCTCTGCCATTCAACTCGGAAACTATAA GCTAGATACTGGAAACCTAACTGCAATGTGGATGTTTTACCCACATGACTTATTATGCATAAAGCCAAATTTCCA GTAAAGCTTTTCTTTTTTAATTTCCAGGAAAAAATAAAAAGAGTATGAGTCTTCTGTAATTCATTGAGCAGTTAG CTCATTTGAGATAAAGTCAAATGCCAAACACTAGCTCTGTATTAATCCCCATCATTACTGGTAAAGCCTCATTTG AATGTGTGAATTCAATACAGGCTATG

MKATIILLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEPSLGPVCPFRCQCHLRVVQCSDLGLDKV PKDLPPDTTLLDLQNNKITEIKDGDFKNLKNLHALILVNNKISKVSPGAFTPLVKLERLYLSKNQLKELPEKMPK TLQELRAHENEITKVRKVTFNGLNQMIVIELGTNPLKSSGIENGAFQGMKKLSYIRIADTNITSIPQGLPPSLTE LHLDGNKISRVDAASLKGLNNLAKLGLSFNSISAVDNGSLANTPHLRELHLDNNKLTRVPGGLAEHKYIQVVYLH NNNISVVGSSDFCPPGHNTKKASYSGVSLFSNPVQYWEIQPSTFRCVYVRSAIQLGNYK

AAAGCAGCATCTTGCCTGGATGAGCCAGGGGACACAGAAGAGAAGCCCACTATCTCATTTAATCTTTACAACTCT CTTGCAAGGGTTCCCTGGTTGTGAAAATACATGAGATAAATCATGAAGGCCACTATCATCCTCCTTCTGCTTGCA CAAGTTTCCTGGGCTGGACCGTTTCAACAGAGAGGCTTATTTGACTTATGCTAGAAGATGAGGCTTCTGGGATA  $\tt CTTCGAGTGGTCCAGTGTTCTGATTTGGGTCTGGACAAAGTGCCAAAGGATCTTCCCCCTGACACACTCTGCTA$ GACCTGCAAAACAACAAATAACCGAAATCAAAGATGGAGACTTTAAGAACCTGAAGAACCTTCACGCATTGATT CTTGTCAACAATAAAATTAGCAAAGTTAGTCCTGGAGCATTTACACCTTTGGTGAAGTTGGAACGACTTTATCTG TCCAAGAATCAGCTGAAGGAATTGCCAGAAAAAATGCCCAAAACTCTTCAGGAGCTGCGTGCCCATGAGAATGAG ATCACCAAAGTGCGAAAAGTTACTTTCAATGGACTGAACCAGATGATTGTCATAGAACTGGGCACCAATCCGCTG AAGAGCTCAGGAATTGAAAATGGGGCTTTCCAGGGAATGAAGAAGCTCTCCTACATCCGCATTGCTGATACCAAT ATCACCAGCATTCCTCAAGGTCTTCCTCCTTCCCTTACGGAATTACATCTTGATGGCAACAAAATCAGCAGAGTT GATGCAGCTAGCCTGAAAGGACTGAATAATTTGGCTAAGTTGGGATTGAGTTTCAACAGCATCTCTGCTGTTGAC AATGGCTCTCTGGCCAACACGCCTCATCTGAGGGAGCTTCACTTGGACAACAACAAGCTTACCAGAGTACCTGGT GGGCTGGCAGAGCATAAGTACATCCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAAGTGAC  $\verb|TTCTGCCCACCTGGACACACACAAAAAGGCTTCTTATTCGGGTGTGAGTCTTTTCAGCAACCCGGTCCAGTAC| \\$ TGGGAGATACAGCCATCCACCTTCAGATGTGTCTACGTGCGCTCTGCCATTCAACTCGGAAACTATAAGTAATTC ACTGGAAACCTAACTGCAATGTGGATGTTTTACCCACATGACTTATTATGCATAAAGCCAAATTTCCAGTTTAAG TAATTGCCTACAATAAAAAGAAATTTTGCCTGCCATTTTCAGAATCATCTTTTGAAGCTTTCTGTTGATGTTAAC TTTTCTTTTTAATTTCCAGGAAAAAATAAAAAGAGTATGAGTCTTCTGTAATTCATTGAGCAGTTAGCTCATTT GAGATAAAGTCAAATGCCAAACACTAGCTCTGTATTAATCCCCATCATTACTGGTAAAGCCTCATTTGAATGTGT GAATTCAATACAGGCTATG

MKATIILLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEPSLGPVCPFRCQCHLRVVQCSDLGLDKV PKDLPPDTTLLDLQNNKITEIKDGDFKNLKNLHALILVNNKISKVSPGAFTPLVKLERLYLSKNQLKELPEKMPK TLQELRAHENEITKVRKVTFNGLNQMIVIELGTNPLKSSGIENGAFQGMKKLSYIRIADTNITSIPQGLPPSLTE LHLDGNKISRVDAASLKGLNNLAKLGLSFNSISAVDNGSLANTPHLRELHLDNNKLTRVPGGLAEHKYIQVVYLH NNNISVVGSSDFCPPGHNTKKASYSGVSLFSNPVQYWEIQPSTFRCVYVRSAIQLGNYK

 ${\tt GTTCCCTGGTTGTGAAAATACATGAGATAAATC} \underline{{\tt ATG}} {\tt AGGCCACTATCATCCTCCTTCTGCTTGCACAAGTTTCC}$ TGGGCTGGACCGTTTCAACAGAGAGGCTTATTTGACTTTATGCTAGAAGATGAGGCTTCTGGGATAGGCCCAGAA GTTCCTGATGACCGCGACTTCGAGCCCTCCCTAGGCCCAGTGTGCCCCTTCCGCTGTCAATGCCATCTTCGAGTG GTCCAGTGTTCTGATTTGGAACTGGGCACCAATCCGCTGAAGAGCTCAGGAATTGAAAATGGGGCTTTCCAGGGA  ${\tt ACGGAATTACATCTIGATGGCAACAAAATCAGCAGAGTTGATGCAGCTAGCCTGAAAGGACTGAATAATTTGGCT}$ AAGTTGGGATTGAGTTTCAACAGCATCTCTGCTGTTGACAATGGCTCTCTGGCCAACACGCCTCATCTGAGGGAG CTTCATAACAACAATATCTCTGTAGTTGGATCAAGTGACTTCTGCCCCACCTGGACACAACACCAAAAAAGGCTTCT TATTCGGGTGTGAGTCTTTTCAGCAACCCGGTCCAGTACTGGGAGATACAGCCATCCACCTTCAGATGTGTCTAC  $\tt GTGCGCTCTGCCATTCAACTCGGAAACTATAAG\underline{TAA} \tt TTCTCAAGAAAGCCCTCATTTTATAACCTGGCAAAATC$ TTGTTAATGTCATTGCTAAAAAATAAATAAAAGCTAGATACTGGAAACCTAACTGCAATGTGGATGTTTTACCCA TTTCAGAATCATCTTTTGAAGCTTTCTGTTGATGTTAACTGAGCTACTAGAGATATTCTTATTTCACTAAATGTA AAATTTGGAGTAAATATATGTCAATATTTAGTAAAGCTTTTCTTTTTTAATTTCCAGGAAAAAATAAAAAGAG TATGAGTCTTCTGTAATTCATTGAGCAGTTAGCTCATTTGAGATAAAGTCAAATGCCAAACACTAGCTCTGTATT AATCCCCATCATTACTGGTAAAGCCTCATTTGAATGTGTGAATTCAATACAGGCTATG

WQ 2004/030615 PCT/US2003/028547

## 4060/6881 FIGURE 3745

MKATIILLLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEPSLGPVCPFRCQCHLRVVQCSDLELGTN PLKSSGIENGAFQGMKKLSYIRIADTNITSIPQGLPPSLTELHLDGNKISRVDAASLKGLNNLAKLGLSFNSISA VDNGSLANTPHLRELHLDNNKLTRVPGGLAEHKYIQVVYLHNNNISVVGSSDFCPPGHNTKKASYSGVSLFSNPV QYWEIQPSTFRCVYVRSAIQLGNYK

 ${\tt GTTCCCTGGTTGTGAAAATACATGAGATAAATC} \underline{{\tt ATG}} {\tt AGGCCACTATCATCCTCCTTCTGCTTGCACAAGTTTCC}$ TGGGCTGGACCGTTCAACAGAGGGCTTATTTGACTTATGCTAGAAGATGAGGCTTCTGGGATAGGCCCAGAA GTTCCTGATGACCGCGACTTCGAGCCCTCCCTAGGCCCAGTGTGCCCCTTCCGCTGTCAATGCCATCTTCGAGTG GTCCAGTGTTCTGATTTGGGTCTTCCTCCTTCCCTTACGGAATTACATCTTGATGGCAACAAAATCAGCAGAGTT GATGCAGCTAGCCTGAAAGGACTGAATAATTTGGCTAAGTTGGGATTGAGTTTCAACAGCATCTCTGCTGTTGAC AATGGCTCTCTGGCCAACACGCCTCATCTGAGGGAGCTTCACTTGGACAACAACAAGCTTACCAGAGTACCTGGT GGGCTGGCAGAGCATAAGTACATCCAGGTTGTCTACCTTCATAACAACAATATCTCTGTAGTTGGATCAAGTGAC TTCTGCCCACCTGGACACACACAAAAAGGCTTCTTATTCGGGTGTGAGTCTTTTCAGCAACCCGGTCCAGTAC  ${\tt TGGGAGATACAGCCATCCACCTTCAGATGTGTCTACGTGCGCTCTGCCATTCAACTCGGAAACTATAAG\underline{{\tt TAA}}{\tt TTC}$ TAATTGCCTACAATAAAAAGAAATTTTGCCTGCCATTTTCAGAATCATCTTTTGAAGCTTTCTGTTGATGTTAAC TTTTCTTTTTTAATTTCCAGGAAAAAATAAAAAGAGTATGAGTCTTCTGTAATTCATTGAGCAGTTAGCTCATTT GAGATAAAGTCAAATGCCAAACACTAGCTCTGTATTAATCCCCATCATTACTGGTAAAGCCTCATTTGAATGTGT GAATTCAATACAGGCTATG

# FIGURE 3747

MKATIILLLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEPSLGPVCPFRCQCHLRVVQCSDLGLPPS LTELHLDGNKISRVDAASLKGLNNLAKLGLSFNSISAVDNGSLANTPHLRELHLDNNKLTRVPGGLAEHKYIQVV YLHNNNISVVGSSDFCPPGHNTKKASYSGVSLFSNPVQYWEIQPSTFRCVYVRSAIQLGNYK

 ${\tt MKATIILLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEPSLGPVCPFRCQCHLRVVQCSDLGCLPS}$ 

MKATIILLLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEPSLGPVCPFRCQCHLRVVQCSDLGLDKV PKDLPPDTTLLDLQNNKITEIKDGDFKNLKNLHVVYLHNNNISVVGSSDFCPPGHNTKKASYSGVSLFSNPVQYW EIQPSTFRCVYVRSAIQLGNYK WO 2004/030615 PCT/US2003/028547

# FIGURE 3752

GTATCACTCAGAATCTGGCAGCCAGTTCCGTCCTGACAGAGTTCACAGCATATATTGGTGGATTCTTGTCCATAG TGCATCTGCTTTAAGAATTAACGAAAGCAGTGTCAAGACAGTAAGGATTCAAACCATTTGCCAAAA<u>ATG</u>AGTCTA AGTGCATTTACTCTCCTGGCATTGATTGGTGGTACCAGTGGCCAGTACTATGATTATGATTTTCCCCTATCA ATTTATGGGCAATCATCACCAAACTGTGCACCAGAATGTAACTGCCCTGAAAGCTACCCAAGTGCCATGTACTGT GATGAGCTGAAATTGAAAAGTGTACCAATGGTGCCTCCTGGAATCAAGTATCTTTACCTTAGGAATAACCAGATT GACCATATTGATGAAAAGGCCTTTGAGAATGTAACTGATCTGCAGTGGCTCATTCTAGATCACAACCTTCTAGAA AACTCCAAGATAAAAGGGAGAGTTTTCTCTAAATTGAAACAACTGAAGAAGCTGCATATAAACCACAACAACCTG ACAGAGTCTGTGGGCCCACTTCCCAAATCTCTGGAGGATCTGCAGCTTACTCATAACAAGATCACAAAGCTGGGC TCTTTTGAAGGATTGGTAAACCTGACCTTCATCCATCTCCAGCACAATCGGCTGAAAGAGGATGCTGTTTCAGCT GCTTTTAAAGGTCTTAAATCACTCGAATACCTTGACTTGAGCTTCAATCAGATAGCCAGACTGCCTTCTGGTCTC CCTGTCTCTCTAACTCTCTACTTAGACAACAATAAGATCAGCAACATCCCTGATGAGTATTTCAAGCGTTTT AATGCATTGCAGTATCTGCGTTTATCTCACAACGAACTGGCTGATAGTGGAATACCTGGAAATTCTTTCAATGTG TCATCCCTGGTTGAGCTGGATCTGTCCTATAACAAGCTTAAAAACATACCAACTGTCAATGAAAAACCTTGAAAAAC TATTACCTGGAGGTCAATCAACTTGAGAAGTTTGACATAAAGAGCTTCTGCAAGATCCTGGGGGCCATTATCCTAC  $\tt CTACGTGTTGCTAACGAAGTCACTCTTAAT{\underline{{\bf TAA}}} {\tt TATCTGTATCCTGGAACAATATTTTATGGTTATGTTTTCTG$ TGTGTCAGTTTTCATAGTATCCATATTTTATTACTGTTTATTACTTCCATGAATTTTAAAAATCTGAGGGAAATGT ACCTTTTACTGGTTGCATGGAAATCAGCCAAGTTTTATAATCCTTAAATCTTAATGTTCCTCAAAGCTTGGATTA AATACATATGGATGTTACTCTTGCACCAAATTATCTTGATACATTCAAATTTGTCTGGTTAAAAAAATAGGTGG TAGATATTGAGGCCAAGAATATTGCAAAATACATGAAGCTTCATGCACTTAAAGAAGTATTTTTAGAATAAGAAT AAAA

MSLSAFTLFLALIGGTSGQYYDYDFPLSIYGQSSPNCAPECNCPESYPSAMYCDELKLKSVPMVPPGIKYLYLRN NQIDHIDEKAFENVTDLQWLILDHNLLENSKIKGRVFSKLKQLKKLHINHNNLTESVGPLPKSLEDLQLTHNKIT KLGSFEGLVNLTFIHLQHNRLKEDAVSAAFKGLKSLEYLDLSFNQIARLPSGLPVSLLTLYLDNNKISNIPDEYF KRFNALQYLRLSHNELADSGIPGNSFNVSSLVELDLSYNKLKNIPTVNENLENYYLEVNQLEKFDIKSFCKILGP LSYSKIKHLRLDGNRISETSLPPDMYECLRVANEVTLN

GCAGAACAAAGAATACTCCACTTTTGATAGATGGGGTTACCAGGATTCAGGCTACATGGCCTGAGGCAAGGTCAC AACATGAGTGACAGAATGTGTCCTGGGAAGCCAGGCATCCTCTGGGGTGTATTTGGGGCCGCTCAACAAGGCTTGAT CGAGCTTTGGGGGTAGATCTAGCTATTCCATGGGGATTCTTTTCAGAATTGCTGTTTTCGGTAACTAATTCCATG ACCAGGTCCATGGCATTGGATGACATTGCGCTACACTGTTGCTCACCCGGGTCACCCGTCCTCACAGGTTGGATG GCAAGCATGTTGTGTTCGGTCACGTCAAAGAGGGCATGGACGTCGTGAAGAAAAATAGAATCTTTCGGCTCTAAG AGTGGGAGGACATCCAAGAAGATTGTCATCACAGACTGTGGCCAGTTGAGCTAATCTGTGGCCCAGGGTGCTGGC ATGGTGGCAGCTGCAAATGTCCATGCACCCAGGTGGCCCGCGTTGGGCTGTCAGCCAAGGTGCCTGAAACGATAC GTGTGCCCACTCCACTGTCACAGTGTGCCTGAGGAAGGCTGCTAGGGATGTTAGACCTCGGCCAGGACCCACCAC TGTCAAGCATTGCCTGTGATTGCCCAGCCCAGATTCATCTGTGCCTTGGACATGGTGATGGTGATGGGTTGCCAT TCTTCCTAATTGGGATAATTTAATTAACAAGATTGACTAGAAGTGAAACTGCAACACTAACTTCCCCGTGCTGTG GTGTGACCTGAGTTGGTGACACAGGCCACAGACCCCAGAGCTTGGCTTTTGAAACACAACTCAGGGCTTTTGTGA AGGTTCCCCCGCTGAGATCTTTCCTCCTGGTTACTGTGAAGCCTGTTGGTTTGCTGCTGTCGTTTTTGAGGAGGG CCCATGGGGGTAGGAGCAGTTGAACCTGGGAACAAACCTCACTTGAGCTGTGCCTAGACAATGTGAATTCCTGTG TTGCTAACAGAAGTGGCCTGTAAGCTCCTGTGCTCCGGAGGGAAGCATTTCCTGGTAGGCTTTGATTTTTCTGTG TGTTAAAGAAATTCAATCTACTCATGATGTGTTATGCATAAAACATTTCTGGAACATGGATTTGTGTTCACCTTA AATGTGAAAATAAATCCTATTTTCTATGG

MAVAAVKWVMSKRTILKHLFPVQNGALYCVCHKSTYSPLPDDYNCNVELALTSDGRTIVCYHPSVDIPYEHTKPI PRPDPVHNNEETHDQVLKTRLEEKVEHLEEGPMIEQLSKMFFTTKHRWYPHGRYHRCRKNLNPPKDR

AGCCGCGGCCTCAACTAAAAGTGGCCATTGACCTTTCAAGCTTTCGAGCAGTGATGCAATAGAATAGTATTTCAA AGAAAAATGCTTATCGAAATTTTGGATCCGGTTTTCCCGTGATTGTTAAGGGTTTCTTTTAAAAAGTAGGTCACA TTTCAAGTAGGTCATATTTCGGGGGGGGGGGCGCAGACAAGGAGATGAGTTTCCACTAAGGCCAGGGGGCCTCCA ACGGGGTTGGAGGTGAGAATCCCAGGTAGGGTAGAGGTGCCGAGATCCTTCCGAATCCCAGCCCTGGGGCGTCAG CCCTGCAGGGAATGGCAGAGACACTCTCCGGACTGAGGGAACCGAGGCCAGTCACCAAGCCCCTTCCGGGCGCGC AGGCGATCAGTGGGTGACCGCGGCTGCGAGGGACTTTGTCATCCGTCCTCCAGGATCTGGGGGAGAAAGAGCCCCA GGTGCCTTGAGCCCTCCGGGAATGGCGGGGAAGGGACCGGGAGCCAGTGGGGGACCGCGGGGTCGGCGGAGGAGC CATCCCCGCAGGCGCGCGTCTGGCGAAGGCCCTGCGGGAGCTCGGTCAGACAGGATGGTACTGGGGAAGTATGA CTGTTAATGAAGCCAAAGAGAAATTAAAAGAGGCACCAGAAGGAACTTTCTTGATTAGAGATAGCTCGCATTCAG ACTACCTACTAACAATATCTGTTAAAACATCAGCTGGACCAACTAATCTTCGAATCGAATACCAAGACGGAAAAT TCAGATTGGACTCTATCATATGTGTCAAATCCAAGCTTAAACAATTTGACAGTGTGGTTCATCTGATCGACTACT ATGTTCAGATGTGCAAGGATAAGCGGACAGGTCCAGAAGCCCCCCGGAACGGCACTGTTCACCTTTATCTGACCA AACCGCTCTACACGTCAGCACCATCTCTGCAGCATCTCTGTAGGCTCACCATTAACAAATGTACCGGTGCCATCT GGGGACTGCCTTTACCAACAAGACTAAAAGATTACTTGGAAGAATATAAATTCCAGGTA<u>TAA</u>ATGTTTCTCTTTT TTTAAACATGTCTCACATAGAGTATCTCCGAATGCAGCTATGTAAAAGAGAACCAAAACTTGAGTGCTCTGGATA ACTATATGGAATGCTTTCTAAGAACAGCTGAAGCTAATCTAATTTAAATTTAACAGCTTGAAGAGGTAGCTAGGT GTTTAAAGTTCCTCCAGATACTTTTACCTGAGTGATGCTTCCCTTCCTAAGGCTGACCAAGACCTGTTGATCCTT TTAGATTAAAAATAAAATGTCGCATGTAAAGGCTGAAGTCGCGTTTTATCAGAATGCCTTGCCTTCTTAGGTTCT TTTCCATTATGTCAAAGGTCCAGGCTCCAGTAGGAGAAGAACTCCTCATAGGAATACTGAAGAAGTGGGAAG GAACCAAGCTGACACAGGCCTCACTGCAATTTGATATGCCTGCTGATCAGAGTCTCTTGGGCATTTTATATTTTG AATCAACCAAAAAAAGTGACCATGAAGTCCTGTATTTGTCTTTTTACTACATGTAGGAACTCTCATGTGAATGAG TACTGTAGTAATCCATTCTATGGGAGCCTTATTTCAGAAATATTTCAAACTGGTGCAAATGGAAAAGACTTTCTC TTTTCCTTTAAAGCTAAAGACAAGAATATCATGCTATACAGGTGCAACTCAATCCCCGTTAATAAAAACCAATGT AGGTATAGGCATTCTACCCTTTGAAATAGCTGTGTCCCAACCTGTTGCCATTGATTTTTTGGAAATGGCTTTAGA AATATCCAAGTTGTCCTTGAATTGTCTAACCATGGACATAAACAGTTGTCTCCCTTCTACTGTGTAGAATACTTT ATTAGAATGTATTAAATAAAAAAAACCTGATTTCT

MTLRCLEPSGNGGEGTRSQWGTAGSAEEPSPQAARLAKALRELGQTGWYWGSMTVNEAKEKLKEAPEGTFLIRDS SHSDYLLTISVKTSAGPTNLRIEYQDGKFRLDSIICVKSKLKQFDSVVHLIDYYVQMCKDKRTGPEAPRNGTVHL YLTKPLYTSAPSLQHLCRLTINKCTGAIWGLPLPTRLKDYLEEYKFQV

 ${\tt GGTGCCGCATCCCCAGCCGCCGCC} \underline{{\tt ATG}} {\tt GCCGCCTACAAACTGGTGCTGATCCGGCACGGCGAGAGCGCATGGAA}$ CCTGGAGAACCGCTTCAGCGGCTGGTACGACGCCGACCTGAGCCCGGCGGGCCACGAGGAGGCGAAGCGCGGCGG GCAGGCGCTACGAGATGCTGGCTATGAGTTTGACATCTGCTTCACCTCAGTGCAGAAGAGAGCGATCCGGACCCT CTGGACAGTGCTAGATGCCATTGATCAGATGTGGCTGCCAGTGGTGAGGACTTGGCGCCTCAATGAGCGGCACTA TGGGGGTCTAACCGGTCTCAATAAAGCAGAAACTGCTGCAAAGCATGGTGAGGCCCAGGTGAAGATCTGGAGGCG CTCCTATGATGTCCCACCACCTCCGATGGAGCCCGACCATCCTTTCTACAGCAACATCAGTAAGGATCGTAGGTA TGCAGACCTCACAGAAGATCAGCTACCCTCCTGTGAGAGTCTGAAGGATACTATTGCCAGAGCTCTGCCCTTCTG GAATGAAGAAATAGTTCCCCAGATCAAGGAGGGGAAACGTGTACTGATTGCAGCCCATGGCAACAGCCTCCGGGG CATTGTCAAGCATCTGGAGGGTCTCTCTGAAGAGGCTATCATGGAGCTGAACCTGCCGACTGGTATTCCCATTGT CTATGAATTGGACAAGAACTTGAAGCCTATCAAGCCCATGCAGTTTCTGGGGGATGAAGAGACGGTGCGCAAAGC  ${\tt CATGGAAGCTGTGGCTGCCCAGGGCAAGGCCAAGAAG}{{\tt TGAA}}{\tt AGGCCGGGGGGAGGATACTGTCCCCAGGAGCACC}$ CTCCCTGCCCGTCTTGTCCCTCTGCCCCTCCCACCTGCACATGTCACACTGACCACATCTGTAGACATCTTGAGT TGTAGCTGCAGATGGGGACCAGTGGCTCCCATTTTCATTTTAGCCATTTTGTCGCCTGCACCCACTCCCTTCATA CAATCTAGTCAGAATAGCAGTTCTAGAGCACAGGTTCTCAGTCTAAGCTATGGAAAAGCTCCCCTTATCCAACAG AGTTTAAAAGTAGTGACTTGGGTTTTTGCGAGTGCTTTGTTTACTAAGGACTTTGGGGAGGAACCATGCTAAGCC ATGACCAGTGAGGAGAAGCAACAGAGCCTGTCTGTCCCCATGAGCGGAGTCTGTCCTCTGCTCTTCTGCAGTCAG GCCACTGCCTACTGCCTGGGGGGCTCTAGTCATTCCAGTGGAAGACGAATGTAACCTGCGTGGTGATGTGACAACT GTTTCCTCCCTGACCCCAGAGGATCTGGCTCTAGGTTGGGATCAATCCTGAATTTCGTTATGTGTTAATTTACTT TTATTAAAAAGTATAGTATATAAAATAATACAAAACAATAACCCTTCTGGGGTTTCTTGTGGCGGTTGAAATA GTCCCACATGTGGTCATCAGAAAATAAGCCATTCCTCATACCAATATAGGATCAGCTCCTTGACCTCTGAGGGGC AGGAGTGCTTCCTGGTGTGTATTAGAATCCCTTCCTGCCTTGTTTCATGGCAGTGAAATGCCTCTTGGTCCTG TCCAAGTGTATCTTTCACTGATTTCTGAATCATGTTCTAGTTGCTTGACCCTGCCACATGGGTCCAGTGTTCATC TGAGCATAACTGTACTAAATCCTTTTTCCATATCAGTATAATAAAGGAGTGATGTGCAA

MAAYKLVLIRHGESAWNLENRFSGWYDADLSPAGHEEAKRGGQALRDAGYEFDICFTSVQKRAIRTLWTVLDAID QMWLPVVRTWRLNERHYGGLTGLNKAETAAKHGEAQVKIWRRSYDVPPPPMEPDHPFYSNISKDRRYADLTEDQL PSCESLKDTIARALPFWNEEIVPQIKEGKRVLIAAHGNSLRGIVKHLEGLSEEAIMELNLPTGIPIVYELDKNLK PIKPMQFLGDEETVRKAMEAVAAQGKAKK

 $\tt XSLPLNPKPFLNGLTGKPVMVKLKWGMEYKGYLVSVDGYMNMQLANTEEYIDGALSGHLGEVLIRCNNVLYIRGV\\ EEEEEDGEMRE$ 

 $\tt CTCTATCGACGAGTCTGGTAGCTGAGCGTTGGGCTGTAGGTCGCTGTGTGATCCCCCAGAGCC{\color{red} \underline{\textbf{a}} \underline{\textbf{r}} \underline{\textbf{c}} \\ \tt CCCC}$ AGATAGTGGATACCTGTTCGTTGGCCTCTCCGGCTTCCGTCTGCCGGACCAAGCACCTGCACCTGCGCTGCAGCG TCGACTTTACTCGCCGGACGCTGACCGGGACTGCTGCTCCACGGTCCAGGAGGACAATCTGCGCAGCC TGGTTTTGGATACAAAGGACCTTACAATAGAAAAAGTAGTGATCAATGGACAAGAAGTCAAATATGCTCTTGGAG AAAGACAAAGTTACAAGGGATCGCCAATGGAAATCTCTCTTCCTATCGCTTTGAGCAAAAATCAAGAAATTGTTA TAGAAATTTCTTTTGAGACCTCTCCAAAATCTTCTGCTCTCCAGTGGCTCACTCCTGAACAGACTTCTGGGAAGG TGAAATTAACCTATACTGCAGAGGTGTCTGTCCCTAAAGAACTGGTGGCACTTATGAGTGCTATTCGTGATGGAG AAACACCTGACCCAGAAGACCCAAGCAGGAAAATATACAAATTCATCCAAAAAGTTCCAATACCCTGCTACCTGA TTGCTTTAGTTGTTGGAGCTTTAGAAAGCAGGCAAATTGGCCCAAGAACTTTGGTGTGGTCTGAGAAAGAGCAGG TGGAAAAGTCTGCTTATGAGTTTTCTGAGACTGAATCTATGCTTAAAATAGCAGAAGATCTGGGAGGACCGTATG TATGGGGACAGTATGACCTATTGGTCCTGCCACCATCCTTCCCTTATGGTGGCATGGAGAATCCTTGCCTTACTT TTGTAACTCCTACTCTACTGGCAGGCGACAAGTCACTCTCCAATGTCATTGCACATGAAATATCTCATAGCTGGA CAGGGAATCTAGTGACCAACAAAACTTGGGATCACTTTTGGTTAAATGAGGGACATACTGTGTACTTGGAACGCC ACATTTGCGGACGATTGTTTGGTGAAAAGTTCAGACATTTTAATGCTCTGGGAGGATGGGGAGAACTACAGAATT  $\tt CTTATTCTTCAGTTCCCTATGAGAAGGGCTTTGCTTTACTTTTTTACCTTGAACAACTGCTTGGAGGACCAGAGA$ TTTTCCTAGGATTCTTAAAAGCTTATGTTGAGAAGTTTTCCTATAAGAGCATAACTACTGATGACTGGAAGGATT GACTGCCTCCCATAAAGCCCAATTATGATATGACTCTGACAAATGCTTGTATTGCCTTAAGTCAAAGATGGATTA CTGCCAAAGAAGATGATTTAAATTCATTCAATGCCACAGACCTGAAGGATCTCTCTTCTCATCAATTGAATGAGT TTTTAGCACAGACGCTCCAGAGGGCACCTCTTCCATTGGGGCACATAAAGCGAATGCAAGAGGTGTACAACTTCA ATGCCATTAACAATTCTGAAATACGATTCAGATGGCTGCGGCTCTGCATTCAATCCAAGTGGGAGGACGCAATTC CTTTGGCGCTAAAGATGGCAACTGAACAAGGAAGAATGAAGTTTACCCGGCCCTTATTCAAGGATCTTGCTGCCT  ${\tt TGGTGGGGAAGACTTAAAAGTGGAT} \underline{{\tt TAAA}} {\tt GGCCTGCGTATTGATGATTTTAGAGATTTCTCTTTTTAAATGGA}$ GTGATTTTACTGAAATAAAGATGAGCTACTTCTTC

MPEIVDTCSLASPASVCRTKHLHLRCSVDFTRRTLTGTAALTVQSQEDNLRSLVLDTKDLTIEKVVINGQEVKYA
LGERQSYKGSPMEISLPIALSKNQEIVIEISFETSPKSSALQWLTPEQTSGKEHPYLFSQCQAIHCRAILPCQDT
PSVKLTYTAEVSVPKELVALMSAIRDGETPDPEDPSRKIYKFIQKVPIPCYLIALVVGALESRQIGPRTLVWSEK
EQVEKSAYEFSETESMLKIAEDLGGPYVWGQYDLLVLPPSFPYGGMENPCLTFVTPTLLAGDKSLSNVIAHEISH
SWTGNLVTNKTWDHFWLNEGHTVYLERHICGRLFGEKFRHFNALGGWGELQNSVKTFGETHPFTKLVVDLTDIDP
DVAYSSVPYEKGFALLFYLEQLLGGPEIFLGFLKAYVEKFSYKSITTDDWKDFLYSYFKDKVDVLNQVDWNAWLY
SPGLPPIKPNYDMTLTNACIALSQRWITAKEDDLNSFNATDLKDLSSHQLNEFLAQTLQRAPLPLGHIKRMQEVY
NFNAINNSEIRFRWLRLCIQSKWEDAIPLALKMATEQGRMKFTRPLFKDLAAFDKSHDQAVRTYQEHKASMHPVT
AMLVGKDLKVD

GCAACCITTCCAAGGGAGTGGTTGTGTGATCGCCATCTTAGGGAAAAGATGTTCTCGTCCGTGGCGCACCTGGCG CGGGCGAACCCCTTCAACACGCCACATCTGCAGCTGGTGCACGATGGTCTCGGGGGACCTCCGCAGCAGCTCCCCA GGGCCCACGGGCCAGCCCCGCCCTCGCAACCTGGCAGCCGCCGCCGTGGAAGAGTACAGTTGTGAATTTGGC CTGGATTTAGTGAAATGCCGTATGCAGGTGGACCCCCAAAAGTACAAGGGCATATTTAACGGATTCTCAGTTACA  $\tt CTTAAAGAGGATGGTGTTCGTGGTTTGGCTAAAGGATGGGCTCCGACTTTCCTTGGCTACTCCATGCAGGGACTC$ TGCAAGTTTGGCTTTTATGAAGTCTTTAAAGTCTTGTATAGCAATATGCTTGGAGAGGAGAATACTTATCTCTGG CGCACATCACTATATTTGGCTGCCTCTGCCAGTGCTGAATTCTTTGCTGACATTGCCCTGGCTCCTATGGAAGCT GCTAAGGTTCGAATTCAAACCCAGCCAGGTTATGCCAACACTTTGAGGGATGCAGCTCCCAAAATGTATAAGGAA GAAGGCCTAAAAGCATTCTACAAGGGGGTTGCTCCTCTCTGGATGAGACAGATACCATACACCATGATGAAGTTC GCCTGCTTTGAACGTACTGTTGAAGCACTGTACAAGTTTGTGGTTCCTAAGCCCCGCAGTGAATGTTCAAAGCCA GAGCAGCTGGTTGTAACATTTGTAGCAGGTTACATAGCTGGAGTCTTTTGTGCAATTGTTTCTCACCCTGCTGAT TCTGTGGTATCTGTGTTGAATAAAGAAAAGGTAGCAGTGCTTCTCTGGTCCTCAAGAGACTTGGATTTAAAGGT GTATGGAAGGGACTGTTTGCCCGTATCATCATGATTGGTACCCTGACTGCACTACAGTGGTTTATCTATGACTCC GTGAAGGTCTACTTCAGACTTCCTCGCCCTCCTCCACCCGAGATGCCAGAGTCTCTGAAGAAGAAGCTTGGGTTA ACTCAGTAGTTAGATCAAAGCAAATGTGGACTGAATCTGCTTGTTGATCAGTGTTGAAGAAAGTGCAAAAGGAAC TTTTATATATTTGACAGTGTAGGAAATTGTCTATTCCTGATATAATTACTGTAGTACTCTTGCTTAAGGCAAGAG TTTCAGATTTACTGTTGAAATAAACCCAACTCTTCATG

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## FIGURE 3766

TATGATTAAAGAGTTTCGAAAAAATTGGCGTGCTCTTTGTAACTCTGAGAGAACCACTCTATGTGGTGCAGACTC CATGCTCTTGGCATTGCAGCTTTCTATGGCGGAGAACAACAACAGTGGAGAATTTACAGTCTCTCAGTGATG GCAAACAGTATGCAGTAGGTGATGAAACTGATCTTTCTATACCAACATCACCAACAAGTAAATACAACCGTGATA ATGAAAAGGTGCAGCTGCTAGCAAGGAAAATTATCTTTTCATATTTAAATCTGCTAGTGAATTCAAAGAATGACC TGGCTGTGGCTTATATTCTCAATATTCCTGATAGAGGACTAGGAAGAGAAGCCTTCACTGATTTGAAACATGCTG CTCGAGAGAAACAAATGTCTATCTTTTTGGTGGCCACGTCTTTTATTAGAACAATAGAGCTTGGAGGGAAAGGAT ATGCACCACCACCATCAGATCCTTTAAGGACACATGTAAAGGGATTGTCTAATTTTATTAATTTCATTGACAAAT TAGATGAGATTCTTGGAGAAATACCAAACCCAAGCATTGCAGGGGGTCAAATACTGTCAGTGATAAAGATGCAAC TGATTAAAGGCCAAAACAGCAGGGATCCTTTTTGCAAAGCAATAGAGGAAGTTGCTCAGGATTTGGATTTGAGGA TTAAAAATATTATCAATTCTCAAGAAGGTGTTGTAGCTCTTAGCACCACTGACATCAGTCCTGCTCGGCCAAAAT CTCATGCCATAAACCATGGTACTGCATACTGTGGCAGAGATACTGTGAAAGCCTTATTAGTTCTTTTGGACGAAG AAGCAGCTAATGCTCCTACCAAAAACAAAGCAGAGCTTTTATATGATGAGGAAAACACAATCCATCATCATGGAA CGTCTATTCTTACACTTTTTAGGTCTCCCACACAGGTGAATAATTCGATAAAACCCCTAAGAGAACGCATCTGTG TGTCAATGCAAGAGAAAAAAATTAAGATGAAGCAAACTTTAATTAGATCCCAATTTGCTTGTACTTATAAAGATG ACTACATGATAAGCAAGGATAATTGGAATAATGTTAATTTAGCATCAAAGCCTTTGTGTGTTCTTTACATGGAAA ATGACCTTTCTGAGGGTGTAAATCCATCTGTTGGAAGATCAACAATTGGAACGAGTTTTGGAAATGTTCATCTGG ACAGAAGTAAAAATGAAAAAGTATCAAGAAAATCAACCAGTCAGACAGGAAATAAAAGCTCAAAAAAGGAAACAGG TGGATTTGGATGGTGAAAATATTCTCTGTGATAATAGAAATGAACCACCTCAACATAAAAATGCTAAAATACCTA AGAAATCAAATGATTCACAGAATAGATTGTACGGCAAACTAGCTAAAGTAGCAAAAAGTAATAAATGTACTGCCA AGGACAAGTTGATTTCTGGCCAGGCAAAGTTAACTCAGTTTTTTAGACTATAAATTTGTGTCTTATATGCTTTAG GTTTATGTATCTATAAACCATTCACCAAAGACATGCTTAATTTTTAAGAGATCAAGGTGTAAATTATGATGATTT ATTATTTTGGTCTACAGTGTATGTAAGGTTAGTATGTTAAGCACTGTTTTTGACTTTTTAAAAAATACCTTAGATG CAAATTTATAGGAGAAAAAACACTTTCAGATAAGAGGTGTTTGCTGGGATGGAAGAACTACCTGGCATGTAAGAA ATATCGTCAGTCGTCCTAATGCATATTGTGACTGTTTGCATATACTTCTGTTTATAAAAGTATCAGTTTTACTTT TCAGAGGATTTGTAAGAATCATTTAAATTTTCATTGAAATAAACGACAAGTCACATTG

# FIGURE 3767

 ${\tt MASQAFRKFLPLL} DRVLVERRAAETVTKGGIMLPEKSQGKLLQARGREIQPVSVKVGDKVLLPEYGGTKVVLDDK\\ DYFLFRDGDILRKYVD$ 

# FIGURE 3769

CCGAGACCCGGCGCAAGAGAGCGCAGCCTTAGTAGGAGAGGGAACGCGAGACGCGGCAGAGCGCGTTCAGCACTGA  $\tt CTTTTGCTGCTTCTGCTTTTTTTTTTTTTTTAGAAACAAGAAGGCGCCAGCGCAGCCTCACACGCGAGCGCCA$ CTCCCGCTTCATATTTCCTTTTCTTTCCCTCTGTTCCTGCACCCAAGTTCTCTGTGTCCCCCCTCGCGGGCC  ${\tt CCGCACCTCGCGTCCCGGATCGCTCTGATTCCGCGACTCCTTGGCCGCCGCTGCGC}{{\tt ATC}{\tt GAAAGCTCTGCCAAGA}}$ AGCAGCAGCAGCAGCGCGCGCGCGGCCGACCGCCGACGCCCTCAGGGGGGCGGTCACAAGTCAG CGCCCAAGCAAGTCAAGCGACAGCGCTCGTCTTCGCCCGAACTGATGCGCTGCAAACGCCGGCTCAACTTCAGCG TGGAGACACTGCGCTCGGCGGTCGAGTACATCCGCGCGCTGCAGCAGCTGCTGGACGAGCATGACGCGGTGAGCG  $\tt CCGCCTTCCAGGCAGGCGTCCTGTCGCCCACCATCTCCCCCAACTACTCCAACGACTTGAACTCCATGGCCGGCT$  $\tt CGCCGGTCTCATCCTACTCGTCGGACGAGGGCTCTTACGACCCGCTCAGCCCCGAGGAGCAGGAGCTTCTCGACT$ AAGAAGAAAAGAGAAGAAAAAAACGAAAACGTCAACCCATCGCCAACTAAGCGAGGCATGCCTGAG  ${\tt AGACATGGCTTTCAGAAAACGGGAAGCGCTCAGAACAGTATCTTTGCACTCCAATCATTCACGGAGATATGAAGA}$ GCAACTGGGACCTGAGTCAATGCGCAAAATGCAGCTTGTGTGCAAAAGCAGTGGGCTCCTGGCAGAAGGGAGCAG CACACGCGTTATAGTAACTCCCATCACCTCTAACACGCACAGCTGAAAGTTCTTGCTCGGGTCCCTTCACCTCCT CGCCCTTTCTTAAAGTGCAGTTCTTAGCCCTCTAGAAACGAGTTGGTGTCTTTC

#### 4086/6881 FIGURE 3771A

GGTCGAGTCCTGAAGGAGGGCCTGATGTCTTCATCATTCTCAAATTCTTGTAAGCTCTGCGTCGGGTGAAACCAG ACAAAGCCGCGAGCCCAGGGATGGGAGCACGCGGGGGACGGCCTGCCGGCGGGGACGACAGCATTGCGCCTGGGT GCAGCAGTGTGCGTCTCGGGGAAGGGAAGATATTTTAAGGCGTGTCTGAGCAGACGGGGAGGCTTTTCCAAACCC AGGCAGCTTCGTGGCGTGTGCGGTTTCGACCCGGTCACACAAAGCTTCAGCATGTCATGTGAGGACGGTCGGGCC CTGGAAGGAACGCTCTCGGAATTGGCCGCGGAAACCGATCTGCCCGTTGTGTTTTGTGAAACAGAGAAAGATAGGC GGCCATGGTCCAACCTTGAAGGCTTATCAGGAGGGCAGACTTCAAAAAGCTACTAAAAATGAACGGCCCTGAAGAT CTTCCCAAGTCCTATGACTATGACCTTATCATCATTGGAGGTGGCTCAGGAGGTCTGGCAGCTGCTAAGGAGGCA GCCCAATATGGCAAGAAGGTGATGGTCCTGGACTTTGTCACTCCCACCCCTCTTGGAACTAGATGGGGTCTCGGA GGAACATGTGTGAATGTGGGTTGCATACCTAAAAAACTGATGCATCAAGCAGCTTTGTTAGGACAAGCCCTGCAA GACTCTCGAAATTATGGATGGAAAGTCGAGGAGACAGTTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAG AATCACATTGGCTCTTTGAATTGGGGCTACCGAGTAGCTCTGCGGGAGAAAAAAGTCGTCTATGAGAATGCTTAT GGGCAATTTATTGGTCCTCACAGGATTAAGGCAACAAATAATAAAGGCAAAGAAAAAATTTATTCAGCAGAGAGA TTTCTCATTGCCACTGGTGAAAGACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATCAGCAGTGAT GATCTTTTCTCCTTGCCTTACTGCCCGGGTAAGACCCTGGTTGTTGGAGCATCCTATGTCGCTTTGGAGTGCGCT GGATTTCTTGCTGGTATTGGTTTAGACGTCACTGTTATGGTTAGGTCCATTCTTCTTAGAGGATTTGACCAGGAC ATGGCCAACAAATTGGTGAACACATGGAAGAACATGGCATCAAGTTTATAAGACAGTTCGTACCAATTAAAGTT GAACAAATTGAAGCAGGGACACCAGGCCGACTCAGAGTAGTAGCTCAGTCCACCAATAGTGAGGAAATCATTGAA GGAGAATATAATACGGTGATGCTGGCAATAGGAAGAGAGATGCTTGCACAAGAAAAATTGGCTTAGAAACCGTAGGG GTGAAGATAAATGAAAAGACTGGAAAAATACCTGTCACAGATGAAGAACAGACCAATGTGCCTTACATCTATGCC CTCTATGCAGGTTCCACTGTCAAGGTGACTATGAAAATGTTCCAACCACTGTATTTACTCCTTTGGAATATGGTG CTTGTGGCCTTTCTGAGGAGAAGCTGTGGAGAAGTTTGGGGAAGAAAATATTGAGGTTTACCATAGTTACTTTT GGCCATTGGAATGGACGATTCCGTCAAGAGATAACAACAAATGTTATGCAAAAATAATCTGTAATACTAAAGACA ATGAACGTGTTGTGGGCTTTCACGTACTGGGTCCAAATGCTGGAGAAGTTACACAAGGCTTTGCAGCTGCGCTCA TGCCAAGACTGCAAACCACTGGCTCGTTTCCGTGCCCAAATCCAAGGCGAAGTTTTCTAGAGGGGTTCTTGGGCTC TTGGCACCTGCGTGTCCTGTGCTTACCACCGCCCAAGGCCCCCTTGGATCTCTTGGATAGGAGTTGGTGAATAGA AGGCAGGCAGCATCACACTGGGGTCACTGACAGACTTGAAGCTGACATTTGGCAGGGCATCGAAGGGATGCATCC ATGAAGTCACCAGTCTCAAGCCCATGTGGTAGGCGGTGATGGAACAACTGTCAAATCAGTTTTAGCATGACCTTT GATATTAGAGATGAAAAACGTTAGCAGTTGATTTTTGTCCAAAAGCAAGTCATGGCTAGAGTATCCATGCAAGGT GTCTTGTTGCATGGAAGGGATAGTTTGGCTCCCTTGGAGGCTATGTAGGCTTGTCCCGGGAAAGAGAACTGTCCT GCAGCTGAAATGGACTGTTCTTTACTGACCTGCTCAGCAGTTTCTTCTCTCATATATTCCCAAAACAAGTACATC GGGAAATGGCTACTTGGCCAGCCATTGCCTGGCATTTGGTAGTATAGTATGATTCTCACCATTATTTGTCATGGA GGCAGACATACACCAGAAATGGGGGAGAAACAGTACATATCTTTCTGTCTTTAGTTTATTGTGTGCTGGTCTAAG CAAGCTGAGATCATTTGCAATGGAAAACACGTAACTTGTTTAAAAGTTTTTCTGGTAGCTTTAGCTTATGCTAA AAAAAATAATGACATTGGGTATCTATTTCTTAAGACTACATTAGTAGGAAAATAAGTCTTTTCATGCTTATG ATTTAGCTGTTTTGTGGTAATTGCTTTTTAAAGGAAGTTATTAATATCATAAGTTATTATTAATATTTTGAACAC TGGAATTTTTGCAGAAGTGTTTATGCTTTGTTAGCATTTCAACTTGCATTATTATAAAGAGGTATTAATGCCTCA GTTATGTGTTTGTCAATGTACTGGCTGAGGATTCTATCTCAGCTGTCTTTTCTAACTGTGTAGGTTGAGTTTTGA ACACGTGCTTGTGGACATCAGGCCTCCTGCCAGCAGTTCTTGAAGCTTCTTTTCATTCCTGCTACTCTACCTGT ATTTCTCAGTTGCAGCACTGAGTGGTCAAAATACATTTCTGGGCCACCTCAGGGAACCCATGCATCTGCCTGGCA TTTAGGCAGCAGAGCCCCTGACCGTCCCCACAGGGCTCTGCCTCACGTCCTCATCTCATTTGGCTGTGTAAAGA TTTTTTTCTCCAAGTCCACCAGTCTCTGAAATTAGAACAGTAGGCGGTATGAGATAATCAGGCCTAATCATGTTG

### 4087/6881 FIGURE 3771B

CTTTTGCGGGTGGCGGCGAACGCGGAGAGCACGCCATGAAGGCCTCGGGCACGCTACGAGAGTACAAGGTAGTGG
GTCGCTGCCTGCCCACCCCCAAATGCCACACGCCGCCCCTCTACCGCATGCGAATCTTTGCGCCTAATCATGTCG
TCGCCAAGTCCCGCTTCTGGTACTTTGTATCTCAGTTAAAGAAGATGAAGAAGTCTTCAGGGGAGATTGTCTACT
GTGGGCAGGTGTTTGAGAAGTCCCCCCTGCGGGTGAAGAACTTCAGGATCTGGCTGCGCTATGACTCCCGGAGCG
GCACCCACAACATGTACCGGGAATACCGGGACCTGACCACCGCAGGCGCTGTCACCCAGTGCTACCGAGACATGG
GTGCCCGGCACCGCGCCCCGAGCCCACTCCATTCAGATCATGAAGGTGGAGGAGATCGCGGCCAGCAAGTGCCGCC
GGCCGGCTGTCAAGCAGTTCCACGACTCCAAGATCAAGTTCCCGCTGCCCCACCGGGTGCTGCCCCAAATAA
ACTCAGGAACGCCCCGGT

# FIGURE 3774

CGGTCAGAGCTGACGATGAAGTTGATGTGGATGGTACAGTAGAAGAGGATCTGGGTAAAAGTAGAGAAGGATCAA  ${\tt AACTTAGAGAGAGTCGGAAAAGTTTGCCTTCCAAGCCGAAGTTAACAGAATGATGAAACTTATCATCAT}$ TGTATAAAAATAAAGAGATTTTCCTGAGAGAACTGATTTCAAATGCTTCTGATGCTTTAGATAAGATAAGGCTAA TATCACTGACTGATGAAAATGCTCTTTCTGGAAATGAGGAACTAACAGTCAAAATTAAGTGTGATAAGGAGAAGA ACCTGCTGCATGTCACAGACACCGGTGTAGGAATGACCAGAGAAGAGTTGGTTAAAAAACCTTGGTACCATAGCCA GCCAGTTTGGTGTCGGTTTCTATTCCGCCTTCCTTGTAGCAGATAAGGTTATTGTCACTTCAAAACACAACAACG ATACCCAGCACATCTGGGAGTCTGACTCCAATGAATTTTCTGTAATTGCTGACCCAAGAGGAAACACTCTAGGAC GGGGAACGACAATTACCCTTGTCTTAAAAGAAGAAGCATCTGATTACCTTGAATTGGATACAATTAAAAATCTCG GGCAGAGACCATCAAAAGAAGTAGAAGAAGATGAATACAAAGCTTTCTACAAATCATTTTCAAAGGAAAGTGATG  ${\tt ACCCCATGGCTTATATTCACTTTACTGCTGAAGGGGAAGTTACCTTCAAATCAATTTTATTTGTACCCACATCTG}$ CTCCACGTGGTCTGTTTGACGAATATGGATCTAAAAAGGGCGATTACATTAAGCTCTATGTGCGCCGTGTATTCA TCACAGACGACTTCCATGATATGATGCCTAAATACCTCAATTTTGTCAAGGGTGTGGTGGACTCAGATGATCTCC CCTTGAATGTTTCCCGCGAGACTCTTCAGCAACATAAACTGCTTAAGGTGATTAGGAAGAAGCTTGTTCGTAAAA CGCTGGACATGATCAAGAAGATTGCTGATGATAAATACAATGATACTTTTTGGAAAGAATTTGGTACCAACATCA AGCTTGGTGTGATTGAAGACCACTCGAATCGAACACGTCTTGCTAAACTTCTTAGGTTCCAGTCTTCATCATC CAACTGACATTACTAGCCTAGACCAGTATGTGGAAAGAATGAAGGAAAAACAAGACAAAATCTACTTCATGGCTG GGTCCAGCAGAAAAGAGGCTGAATCTTCTCCATTTGTTGAGCGACTTCTGAAAAAAGGGCTATGAAGTTATTTACC TCACAGAACCTGTGGATGAATACTGTATTCAGGCCCTTCCCGAATTTGATGGGAAGAGGTTCCAGAATGTTGCCA TGCTGAATTGGATGAAAGATAAAGCCCTTAAGGACAAGATTGAAAAGGCTGTGGTGTCTCAGCGCCTGACAGAAT AAACGGGCAAGGACATCTCTACAAATTACTATGCGAGTCAGAAGAAAACATTTGAAATTAATCCCAGACACCCGC TGATCAGAGACATGCTTCGACGAATTAAGGAAGATGAAGATGATAAAACAGTTTTGGATCTTGCTGTGGTTTTGT TTCGCCTCAGTTTGAACATTGACCCTGATGCAAAGGTGGAAGAAGAGCCTGAAGAAGAACCTGAAGAGACAGCAG AAGACACAACAGAAGACACAGAGCAAGACGAAGATGAAGAATGGATGTGGGAACAGATGAAGAAGAAGAACAG CAAAGGAATCTACAGCTGAAAAAGATGAATTGTAAATTATACTCTCACCATTTGGATCCTGTGTGGAGAGGGAAT GTGAAATTTACATCATTTCTTTTTGGGAGAGACTTGTTTTGGATGCCCCCTAATCCCCTTCTCCCCTGCACTGTA 

## FIGURE 3775

 $\underline{\textbf{ATG}} \textbf{AGCTTCACCACTCCCACCAACTACCGGTCCCTGGGCTCTGTCCAGACGCCCAGCTATGGC}$ TTCACCAGCTTCCGGGTTGCATGGGGAATAGGAGGCATCCAGAACGAGAAGGAGACCATGCAAAGCCTGAACGAC TGCCTGGCCTCCTACCTGGACAGAGTGAGGAGCCTGGTGACCAAGAACCAGAAGCTGGAGAGCAAAATCCGGGAG CACGTGGAGAAGAAGGGACCCCATGTCAGAGACTGGAGCCATTACTTCAAGATCATCGATGACCTGAGGGCTCAG AGGGTCAAGTATGAGACAGAGCTGGCCCATGACATCCATGGGCTCCGCAAGGTCATTGTTGACACCAAT GTCACTCGGCTGCAGCTGGAGACAGAGATTGAGGCTCTCAAGGAGGAGCTGCTCTTCATAAAGAAGAACCACAAA GAGGAAGTAAAAGGCCTACAAGCCCAGATTGCCAGCTCTGGGTTGACCATGGAGGTAGATGCCCTTAAATCTCAG TGCCTCGCCAAGATCATGGCAGACATCTGGGCCCAATATGACGAGCTGGCTCGGAAGAACCAAGAGGAGCTGGAC AAATACTGGTCTCAGAAGAATGAGGAAATCGCCAAAGTGGTCACCACGCAGTCCGCCGAGGTTGGAGCTGCTGAG  ${\tt ATGACGCTCACAGAGCTGAGATGTACAGTCCAGTCCTTGGAGGTTGACCTGGACTCCATGAGAAGTCTGAAGGCC}$ AGCTTGGAGGACCGCCTGAGGGAGGTGGAGGCCCGCCACACCCTGCAGATGGAGCAGCTCAATGGGATCCTGTTG ATCAAGGTCAAGTTGGAGGCTGAGATCGCCACCTACCGCCGCCTGCTGGAAGATGGCGAGGAGTTCAATCTTGGT GATGCCCTGGACAGCAGCAACTCCATGCAAACCATCCAAAAGACCACCACTGCCGGATAG

MGSGGLAAGMAGGLAGIGGIQNEKETMQSLNDCLASYLDRVRSLVTKNQKLESKIREHVEKKGPHVRDWSHYFKI IDDLRAQIFANTVDNACIVLQIDNVCLAADDFRVKYETELAMAHDIHGLRKVIVDTNVTRLQLETEIEALKEELL FIKKNHKEEVKGLQAQIASSGLTMEVDALKSQCLAKIMADIWAQYDELARKNQEELDKYWSQKNEEIAKVVTTQS AEVGAAEMTLTELRCTVQSLEVDLDSMRSLKASLEDRLREVEARHTLQMEQLNGILLHLESELAQTLAEGQCQAQ EYEALLNIKVKLEAEIATYRRLLEDGEEFNLGDALDSSNSMQTIQKTTTAG

CAGTGCCAGGCTGGAGGCGGCAGCGGTTGGAGGCTTCGCCCGGCTTTGCAGCGGGGACTTCGGCGGCGCCCTC  $\tt AGGCACCTCGGCCCGGACACG\underline{ATG} AGGCGAGTGGTACGACAGGCAAGTTTCGGCATGTATTTGGGCAAGCGGTG$ AAAAATGACCAGTGCTATGATGACATCCGGGTTTCTCGTGTGACCTGGGATAGTTCCTTTTTGTGCTGTCAATCCC ATTGACAAATCTTACCCTACAGTATGTGGCCACACAGGACCAGTGCTGGACATAGACTGGTGCCCACATAACGAT CAGGTCATTGCCAGCGGTTCAGAGGACTGCACGGTCATGGTATGGCAGATCCCAGAAAATGGACTCACCCTTTCC CTGACTGAACCTGTGGTGATTTTGGAAGGCCACTCAAAGAGAGTCGGCATCGTGGCTTGGCATCCAACGGCCCGC AATGTGCTTCTTAGTGCAGGCTGTGATAATGCCATTATCATCTGGAATGTGGGAACAGGGGAAGCCCTTATAAAC TTGGACGATATGCATTCAGACATGATTTACAATGTGAGCTGGAACCGGAATGGCAGTCTGATCTGCACAGCTTCC AAAGACAAGAAAGTGAGAGTCATTGATCCCAGGAAACAAGAGTTGTTGCTGAGAAGGAGAAAGCACATGAAGGA CAGCTGGCTCTCTGGAATCCGAAAATATGCAGGAACCAATTGCTCTTCATGAGATGGACACTAGCAATGGGGTG TTGCTGCCTTTCTATGACCCTGACACCAGCATCATTTACTTATGTGGAAAGGGTGACAGCAGTATTCGCTATTTT GAGATCACGGATGAATCCCCGTACGTCCACTACCTCAACACATTCAGCAGCAAGGAGCCTCAGAGAGGGATGGGT TACATGCCCAAGAGGGGACTTGATGTTAACAAATGTGAGATTGCCAGATTCTTCAAACTTCATGAGAAAAGTGT GAACCTATTATTATGACTGTTCCCAGGAAGTCTGACCTTTTCCAAGATGACCTGTATCCTGACACAGCGGGGCCA GAGGCCGCGCTGGAGGCAGAAGAGTGGTTCGAAGGCAAGAATGCAGACCCAATCCTCATCTCCTTGAAGCACGGG TACATTCCAGGCAAAAACAGGGATCTCAAGGTGGTCAAGAAGAACATTCTGGATAGCAAGCCCACTGCAAACAAG AAGTGCGACCTGATCAGCATCCCCAAGAAAACCACAGACACGGCCAGTGTGCAAAATGAAGCCAAGTTGGATGAG ATTTTAAAAGAGATCAAATCTATAAAAGACACAATCTGCAATCAAGATGAGCGTATTTCCAAGTTAGAACAGCAG  $\tt ATGGCAAAGATAGCAGCC{\color{blue}{\bf TGA}} AGGTCCCACCCCCACCCCTACAGAAAAATGGGAGCAAGAACTTGTGCTTGGGA$ GCTGGTTATTGGTGTGGTCCTAGGGAGGGCGGAAAGGGAGGCACTGCCATTTGGAGACATTCCATTTCAGATTTG TCAACCAGCGATAGGCCACATTCCAGTAAGAACTCAATTTGTCTCCCCAAATTTGCAGAAACAAAACGTGATTTAA AAGCTGAGCTTTTTATCAGAAAGCTTTTTTGATGTTTTAAGTGTTATGTGACTTGTTGAACTTTTTAAAAAAGTGC GACAGCACTGTGTATGTTTATAAACTAAATGAAGATAAGATATTATTTTGTATAAACATTCATCTGAGAACAATC AAAGCAGTAGCCACATGGTGCTGGCTCCTTTGCAGCACAAACCTGGTCATTTTGATGACTGTACAACAGGAAGAC TTGAAAAATCACGTGGATTCATATTACCACCGCTCTCATTTCATGGAGTCTTCTGATCAAAAAAGCTCACGTCGT ATTTCTTCTTTTCCTTTTCTTCTAGAAATTGGGTGTTTGTACCAGAATGGAATTTTGCTTCTCGGTTATCCT GTGCTTCAGATGATTATAATCTAACCC

MRRVVRQSKFRHVFGQAVKNDQCYDDIRVSRVTWDSSFCAVNPRFVAIIIEASGGAFLVLPLHKTGRIDKSYPT VCGHTGPVLDIDWCPHNDQVIASGSEDCTVMVWQIPENGLTLSLTEPVVILEGHSKRVGIVAWHPTARNVLLSAG CDNAIIIWNVGTGEALINLDDMHSDMIYNVSWNRNGSLICTASKDKKVRVIDPRKQEIVAEKEKAHEGARPMRAI FLADGNVFTTGFSRMSERQLALWNPKNMQEPIALHEMDTSNGVLLPFYDPDTSIIYLCGKGDSSIRYFEITDESP YVHYLNTFSSKEPQRGMGYMPKRGLDVNKCEIARFFKLHERKCEPIIMTVPRKSDLFQDDLYPDTAGPEAALEAE EWFEGKNADPILISLKHGYIPGKNRDLKVVKKNILDSKPTANKKCDLISIPKKTTDTASVQNEAKLDEILKEIKS IKDTICNQDERISKLEQQMAKIAA

WO 2004/030615 PCT/US2003/028547

### 4096/6881 FIGURE 3780

MVSAAAPSLLILLLLLLGSVPATDARSVPLKATFLEDVAGSGEAEGSSASSPSLPPPWTPALSPTSMGPQPITLG GPSPPTNFLDGIVDFFRQYVMLIAVVGSLAFLLMFIVCAAVITRQKQKASAYYPSSFPKKKYVDQSDRAGGPRAF SEVPDRAPDSRPEEALDSSRQLQADILAATQNLKSPTRAALGGGDGARMVEGRGAEEEEKGSQEGDQEVQGHGVP VETPEAQEEPCSGVLEGAVVAGEGQGELEGSLLLAQEAQGPVGPPESPCACSSVHPSV

MAGEKVEKPDTKEKKPEAKKVDAGGKVKKGNLKAKKPKKGKPHCSRNPVLVRGIGRYSRSAMYSRKAMYKRKYSA AKSKVEKKKKEKVLATVTKPVGGDKNGGTRVVKLRKMPRYYPTEDVPRKLLSHGKKPFSQHVRKLRASITPGTIL IILTGRHRGKRVVFLKQLASGLLLVTGPLVLNRVPLRRTHQKFVIATSTKIDISNVKIPKHLTDAYFKKKKLRKP RHQEGEIFDTEKEKYEITEQRKIDQKAVDSQILPKIKAIPQLQGYLRSVFALTNGIYPHKLVF

MGVPYCIIKGKARLGRLVHRKTCTTVAFTQVNLEDKGALAKLVEGIRTNDNDRYDEICCHWGGNILGPKSVACIA KLEKAKAKELATKLG

WO 2004/030615 PCT/US2003/028547

#### 4101/6881 FIGURE 3785

MAAAVPRAAFLSPLLPLLLGFLLLSAPHGGSGLHTKGALPLDTVTFYKVIPKSKFVLVKFDTQYPYGEKQDEFKR LAENSASSDDLLVAEVGISDYGDKLNMELSEKYKLDKESYPVFYLFRDGDFENPVPYTGAVKVGAIQRWLKGQGV YLGMPGCLPVYDALAGEFIRASGVEARQALLKQGQDNLSSVKETQKKWAEQYLKIMGKILDQGEDFPASEMTRIA RLIEKNKMSDGKKEELQKSLNILTAFQKKGAEKEEL

#### 4103/6881 FIGURE 3787A

ATGGTCTTGCTTCTTTGTCTGTCTGATTTTCTCCTGTCTGACCTTTTCCTGGTTAAAAATCTGGGGGAAA ATGACGGACTCCAAGCCGAŤCACCAAGAGTAAATCAGAAGCAAACCTCATCCCGAGCCAGGAGCCCTTTCCAGCC CCAGCCTCCCACAAAGGCCCCAAAGATGCCGGTCGGCGGAGAAACTCCCTACCACCCTCCCACCAGAAGCCCCCA AGAAACCCCCTTTCTTCCAGTGACGCAGCACCCTCCCCAGAGCTTCAAGCCAACGGGACTGGGACACAAGGTCTG GACAAGAAGCAGGCAAACATCAAGAGGCAGCTGATGACCAACTTCATCCTGGGCTCTTTTGATGACTACTCCTCC GACGAGGACTCTGTTGCTGGCTCATCTCGTGAGTCTACCCGGAAGGGCAGCCGGGCCAGCTTGGGGGCCCTGTCC CTGGAGGCTTATCTGACCACAGGTGAAGCTGAGACCCGCGTCCCCACTATGAGGCCGAGCATGTCGGGACTCCAC CTGGTGAAGAGGGGACGGGAACACAAGAAGCTGGACCTGCACAGAGACTTTACCGTGGCTTCTCCCGCTGAGTTT GTCACACGCTTTGGGGGGGATCGGGTCATCGAGAAGGTGCTTATTGCCAACAACGGGATTGCCGCCGTGAAGTGC ATGCGCTCCATCCGCAGGTGGGCCTATGAGATGTTCCGCAACGAGCGGGCCATCCGGTTTGTTGTGATGGTGACC CCCGAGGACCTTAAGGCCAACGCAGAGTACATCAAGATGGCGGATCATTACGTCCCCGTCCCAGGAGGGCCCAAT **AACAACAACTATGCCAACGTGGAGCTGATTGTGGACATTGCCAAGAGAATCCCCGTGCAGGCGGTGTGGGCTGGG** TGGGGCCATGCTTCAGAAAACCCTAAACTTCCGGAGCTGCTGTGCAAGAATGGAGTTGCTTTCTTAGXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXAGAGATAAGATCGCCTCCACCGTTGTCGCCCAGACGCTACAGGTCCCAACC CTGCCCTGGAGTGGAAGCGGCCTGACAGTGGAGTGGACAGAAGATGATCTGCAGCAGGGAAAAAGAATCAGTGTC CCATTGATGATCAAAGCTTCTGAAGGTGGCGGAGGGAAGGGAATCCGGAAGGCTGAGAGTGCGGAGGACTTCCCG ATCCTTTTCAGACAAGTACAGAGTGAGATCCCAGGCTCGCCCATCTTTCTCATGAAGCTGGCCCAGCACGCCCGT CGGCGGCATCAGAAGATCGTTGAGGAAGCACCGGCCACCATCGCCCCGCTGGCCATATTCGAGTTCATGGAGCAG TGTGCCATCCGCCTGGCCAAGACCGTGGGCTATGTGAGTGCAGGGACAGTGGAATACCTCTATAGTCAGGATGGC AGCTTCCACTTCTTGGAGCTGAATCCTCGCTTGCAGGTGGAACATCCCTGCACAGAAATGATTGCTGATGTTAAT CGGAGCAGCAAGAACGTGTGGGGGTTACTTCAGCGTGGCCGCTACTGGAGGCCTGCACGAGTTTGCGGATTCCCAA TTTGGGCACTGCTTCTCCTGGGGAGAGACCGGGAAGAGCCCATTTCGAACATGGTGGTGGCTTTGAAGGAACTG TCCATCCGAGGCGACTTTAGGACTACCGTGGAATACCTCATTAACCTCCTGGAGACCGAGAGCTTCCAGAACAAC GACATCGACACCGGGTGGTTGGACTACCTCATTGCTGAGAAAGTGCAGGAGAAACCGGATATCATGCTTGGGGTG GTATGCGGGGCCTTGAACGTGGCCGATGCGATGTTCAGAACGTGCATGACAGATTTCTTACACTCCCTGGAAAGG CTCAAGGTGGCCCGGCAGTCTCTGACCATGTTCGTTCTCATCATGAATGGCTGCCACATCGAGATTGATGCCCAC AGXXXXXXXXXXCGGCAATAAGACGTGTGTGTTTTGAGAAGGAGACGATCCTACAGTCCTGAGATCCCCCTCG GCTGGGAAGCTGACACAGTACACAGTGGAGGATGGGGGCCACGTTGAGGCTGGGAGCAGCTACGCTGAGATGGAG GTGATGAAGATGATCATGACCCTGAACGTTCAGGAAAGAGGCCGGGTGAAGTACATCAAGCGTCCAGGTGCCGTG CTGGAAGCAGGCTGCTGGTGGCCAGGCTGGAGCTCGATGACCCTTCTAAAGTCCACCCGGCTGAACCGTTCACA GGAGAACTCCCTGCCCAGCAGACACTGCCCATCCTCGGAGAGAAACTGCACCAGGTCTTCCACAGCGTCCTGGAA AACCTCACCAACGTCATGAGTGGCTTTTGTCTGCCAGAGCCCGTTTTTAGCATAAAGCTGAAGGAGTGGGTGCAG AAGCTCATGATGACCCTCCGGCACCCGTCACTGCCGCTGCTGGAGCTGCAGGAGATCATGACCAGCGTGGCAGGC CGCATCCCCGCCCTGTGGAGAAGTCTGTCCGCAGGGTGATGGCCCAGTATGCCAGCAACATCACCTCGGTGCTG TGCCAGTTCCCCAGCCAGCAGATAGCCACCATCCTGGACTGCCATCCAGCCACCCTGCAGCGGAAGGCTGATCGA GAGGTCTTCTTCATCAACACCCAGAGCATCGTGCAGTTGGTCCAGAGGTACCGCAGCGGGATCCGCGGCTATATG **AAAACAGTGGTGTTGGATCTCCTGAGAAGATACTTGCGTGTTGAGCACCATTTTCAGCAAGGCAAGAGATGCTGA** CCCACTACGACAAGTGTGTGATAAACCTCAGGGAGCAGTTCAAGCCAGACATGTCCCAGGTGCTGGACTGCATCT

## FIGURE 3787B

TCTCCCACGCACAGGTGGCCAAGAAGAACCAGCTGGTGATCATGTTGATCGATGAGCTGTGTGGCCCAGACCCTT TCCTGTCTGCCATTGACATGTACGGCCACCAGTTCTGCCCCGAGAACCTCAAGGTGAAGAAATTAATACTTTCGG TTTACGTGCGGAGGGGCTACATCGCCTATGAGTTAAACAGCCTGCAGCACCGGCAGCTCCCGGACGGCACCTGCG TGGTAGAATTCCAGTTCATGCTGCCGTCCTCCCACCCAAACCGGATGACCGTGCCCATCAGCATCACCAACCCTG ACCTGCTGAGGCACAGCACAGAGCTCTTCATGGACAGCGGCTTCTCCCCACTGTGCCAGCGCATGGGAGCCATGG TAGCCTTCAGGAGATTCGAGGACTTCACCAGAAATTTTGATGAAGTCATCTCTTGCTTCGCCAACGTGCCCAAAG ACACCCCCTCTTCAGCGAGGCCCGCACCTCCCTATACTCCGAGGATGACTGCAAGAGCCTCAGAGAAGAGCCCA TCCACATTCTGAATGTGTCCATCCAGTGTGCAGACCACCTGGAGGATGAGGCACTGGTGCCGATTTTACGGACAT TCGTACAGTCCAAGAAAAATATCCTTGTGGATTATGGACTCCGACGAATCACATTCTTGATTGCCCAAGAGAAAG AATTTCCCAAGTTTTTCACATTCAGAGCAAGAGATGAGTTTGCAGAAGATCGCATTTACCGTCACTTGGAACCTG CCCTGGCCTTCCAGCTGGAACTTAACCGGATGCGTAACTTCGATCTGACCGCCGTGCCCTGTGCCAACCACAAGA TGCACCTTTACCTGGGTGCTGCCAAGGTGAAGGAAGGTGTGGAAGTGACGGACCATAGGTTCTTCATCCGCGCCA TCATCAGGCACTCTGACCTGATCACAAAGGAAGCCTCCTTCGAATACCTGCAGAACGAGGGTGAGCGGCTGCTCC TGGAGGCCATGGACGAGCTGGAGGTGGCGTTCAATAACACCAGCGTGCGCACCGACTGCAACCACATCTTCCTCA ACTTCGTGCCCACTGTCATCATGGACCCCTTCAAGATCGAGGAGTCCGTGCGCTACATGGTTATGCGCTACGGCA GCCGGCTGTGGAAACTCCGTGTGCTACAGGCTGAGGTCAAGATCAACATCCGCCAGACCACCACCGGCAGTGCCG CCTACGTCACCAAGGATCTGCTCCAGGCCAAGCGATTCCAGGCCCAGACCCTGGGAACCACCTACATCTATGACT TCCCGGAAATGTTCAGGCAGGCTCTCTTTAAACTGTGGGGCTCCCCAGACAAGTATCCCAAAGACATCCTGACAT ACACTGAATTAGTGTTGGACTCTCAGGGCCAGCTGGTGGAGATGAACCGACTTCCTGGTGGAAATGAGGTGGGCA TGGTGGCCTTCAAAATGAGGTTTAAGACCCAGGAGTACCCGGAAGGACGGGATGTGATCGTCATCGGCAATGACA TCACCTTTCGCATTGGATCCTTTGGCCCTGGAGAGGACCTTCTGTACCTGCGGGCATCCGAGATGGCCCGGGCAG AGGGCATTCCCAAAATTTACGTGGCAGCCAACAGTGGCGCCCGTATTGGCATGGCAGAGGAGATCAAACACATGT TCCACGTGGCTTGGGTGGACCCAGAAGACCCCCACAAAGGATTTAAATACCTGTACCTGACTCCCCAAGACTACA ATATCATCGGGAAGGATGATGGCTTGGGCGTGGAGAATCTGAGGGGCTCAGGCATGATTGCTGGGGAGTCCTCTC TGGCTTACGAAGAGATCGTCACCATTAGCTTGGTGACCTGCCGAGCCATTGGGATTGGGGCCTACTTGGTGAGGC TGGGCCAGCGAGTGATCCAGGTGGAGAATTCCCACATCATCCTCACAGGAGCAAGTGCTCTCAACAAGGTCCTGG GAAGAGAGGTCTACACATCCAACAACCAGCTGGGTGGCGTTCAGATCATGCATTACAATGGTGTCTCCCACATCA CCGTGCCAGATGACTTTGAGGGGGTTTATACCATCCTGGAGTGGCTGTCCTATATGCCAAAGGATAATCACAGCC CTGTCCCTATCATCACCCCACTGACCCCATTGACAGAGAAATTGAATTCCTCCCATCCAGAGCTCCCTACGACC CCCGGTGGATGCTTGCAGGAAGGCCTCACCCAACTCTGAAGGGAACGTGGCAGAGCGGATTCTTTGACCACGGCA GTTTCAAGGAAATCATGGCACCCTGGGCGCAGACCGTGGTGACAGGACGAGCAAGGCTTGGGGGGATTCCCGTGG GAGTGATTGCTGTGGAGACACGGACTGTGGAGGTGGCAGTCCCTGCAGACCCTGCCAACCTGGATTCTGAGGCCA AGATAATTCAGCAGGCAGGACAGGTGTGGTTCCCAGACTCAGCCTACAAAACCGCCCAGGCCGTCAAGGACTTCA ACCGGGAGAAGTTGCCCCTGATGATCTTTGCCAACTGGAGGGGGTTCTCCGGTGGCATGAAAGACATGTATGACC AGGTGCTGAAGTTTGGAGCCTACATCGTGGACGGCCTTAGACAATACAAACAGCCCATCCTGATCTATATCCCGC CCTATGCGGAGCTCCGGGGAGGCTCCTGGGTGGTCATAGATGCCACCATCAACCCGCTGTGCATAGAAATGTATG TAAAGTCCATGAGAAGGATCGATCCAGCTTACAAGAAGCTCATGGAACAGCTAGGGGAACCTGATCTCTCCGACA AGGACCGAAAGGACCTGGAGGGCCGGCTAAAGGCTCGCGAGGACCTGCTGCTCCCCATCTACCACCAGGTGGCGG TGCAGTTCGCCGACTTCCATGACACCCCGGCCGGATGCTGGAGAAGGGCGTCATATCTGACATCCTGGAGTGGA AGACCGCACGCACCTTCCTGTATTGGCGTCTGCGCCGCCTCCTCCTGGAGGACCAGGTCAAGCAGGAGATCCTGC AGGCCAGCGGGGAGCTGAGTCACGTGCATATCCAGTCCATGCTGCGTCGCTGGTTCGTGGAGACGGAGGGGGGCTG

# FIGURE 3787C

## FIGURE 3788A

GGCGGTAGTGCGTCGCTGCCCCGGGTCTGGCAGAACTCGGGTGTTTTGGGCTGAGACAGTGGCAGCTGCGG CCCCGACCCCAAGTGCGGGGACCTCCGGCGAATAAAGGTCGGCCTGCGGGTAGGCCGGTAGGCCTGCGGTCCGG  ${\tt CCTGCGGGAGAACTGGGTCGTCAGTCCTCCGAGTGGTGGGGCTCGGGGACTTTGAGGGAGTTGGCTCTAGGGCACA}$ GTCCCTGCCTGGCCAGGTCGGAGGAACAAGTGCTGGGATCTGGCGTGTGTGCTCCAGGGGCTCTTTCCGCGGCCC TTTCCACCTCTTTTCACTTTGGGGACGGTAGGCCTTTATAAACGGACTAATGCTGGGTGATTTGTTCCTGTGGTT ACCTTGGAAAAAATAACAAGCTTTTCTGAAGTGAGAAGCTGTTCTCAGCCACGAGTCCTGTGCAAGATCACTAAT GATTACCTGGCATTTCTGCGACACAGGCAGGTCCTCAGGGTTTGTGCAAAGTTTGCAAACATGTTCACCCTGTCTC AGACCTCGAGAGCATGGTTCATCGATAGAGCCCGTCAGGCACGAGAAGAAAGGCTTGTGCAGAAGGAACGGGAGC GGGCAGCTGTTGTGATCCAGGCCCATGTCCGGAGTTTTCTCTGTCGGAGTCGACTGCAGAGAGATATCAGGAGAG AGATTGATGACTTTTTTAAAGCAGATGACCCTGAGTCCACTAAAAGAAGTGCACTTTGTATTTTCAAGATTGCCA GGAAACTGCTGTTCCTATTCAGAATCAAAGAGGATAATGAGAGATTTTGAGAAGTTGTGTCGCAGCATCCTGAGCA GCATGGATGCTGAGAATGAGCCTAAGGTGTGGTATGTGTCCCTGGCTTGTTCTAAGGACCTCACCCTCCTTTGGA TTCAACAGATCAAGAACATTTTGTGGTACTGCTGTGATTTTCTCAAGCAGCTCAAGCCTGAAATCCTGCAGGACT CCCGACTCATCACCCTGTACCTCACGATGCTTGTCACCTTCACAGACACTTCAACGTGGAAAATTCTTCGGGGAA AAGGTGAAAGTCTTCGACCAGCGATGAACCACATTTGTGCAAATATAATGGGACATCTCAACCAGCATGGATTTT ATTCTGTGCTGCAGATATTGTTAACCCGTGGCCTGGCAAGACCCCGTCCTTGTCTATCCAAAGGCACTTTAACAG CAGCTTTTTCTCTAGCGTTACGCCCTGTGATTGCTGCACAGTTCTCAGACAATCTGATTCGGCCGTTCCTCATCC ACATCATGTCTGTGCCTGTGGTGACTCATCTCAGCACAGTGACCCCTGAGCGCCTCACTGTTTTAGAATCCC GATGCCATACGCTTTGTCTAATGGGCAACCTCCTACACTTGGGCTCCCTCAGCCCCAGAGTGTTAGAGGAGGAGA CAGATGGGTTCGTGAGTTTGCTCACCCAGACGCTGTGCTACTGTCGGAAGTATGTGTCTCAGAAGAAGTCCAACC TGACCCACTGGCATCCTGTCCTTGGCTGGTTCTCCCAATCTGTGGATTATGGCCTTAACGAGTCAATGCACTTGA TCACCAAACAGCTGCAGTTCTTGTGGGGGGTGCCTCTGATCCGGATCTTCTTCTGTGACATCCTGAGCAAGAAGC AGCGTGCTTTTCAAAAGTCGGCATCAGTCCGGAATATTCTCAGGCCTGTCGGGGGTAAACGGGTCGACTCTGCAG AAGTCCAGAAGGTTTGCAACATCTGTGTCCTCTACCAGACCTCGCTGACAACTCTCACACAGATTCGGCTGCAGA TACTCACAGGTCTCACTTACCTTGATGACCTGCTTCCCAAACTGTGGGCATTTATCTGTGAGCTCGGGCCCCACG GAGGGTTAAAGCTCTTCTTGGAATGCCTGAACAATGACACTGAAGAGTCCAAGCAACTCTTGGCCATGCTGATGC AACTGGAAGACTGGTCACTATCTCCTCTTTCCTGAATTCTTTTGTGTTTAAGATGATCTGGGGATGGAATTGTAG AGAACGCCAAGGGTGAGACCTTGGAGCTGTTCCAGTCTGTCCACGGGTGGCTTATGGTGCTGTACGAGCGGGACT GCCGGCGCGCTTCACCCCCGAGGACCACTGGCTGCGAAAGGATCTCAAACCTAGCGTGCTCTTCCAAGAACTCG ACAGGGACAGAAAACGGGCACAGTTGATCCTGCAGTACATCCCACATGTCATCCCTCACAAAAACAGAGTTCTAC TGTTTCGAACCATGGTTACCAAGGAGAAGGAGAAACTGGGGCTGGTGGAAACCAGCTCTGCCTCCCCGCATGTCA CTCACATCACCATCCGCCGGTCCAGGATGCTGGAGAGCTTGTTTGAGTGCCCCTGGCCACTGGTGATCAATGCCG AGAGCTGCTAGGAAGGCAGTGTGTGCTGAACAGTGGATGTTTCTGACATTCTTCAAGGACGGCTACGAGCAGCTT AGGCAGCTCTCCCAGCACGCCATGAAGGGGGTCATCCGTGTGAAGTTTGTCAATGACCTCGGGGTGGACGAAGCA GGGATTGATCAAGACGGTGTTTTTAAGGAGTTCTTGGAAGAGATCATCAAGAGAGTTTTTGACCCAGCACTCAAT CTGTTCAAGACAACCAGTGGGGATGAGAGGCTGTACCCCTCACCCACATCCTACATCCATGAGAATTACCTGCAG CTCTTCGAGTTTGTGGGGAAGATGCTGGGGAAGGCTGTGTATGAGGGAATTGTGGTGGACGTGCCATTTGCATCC TTCTTCCTGAGCCAACTGCTTGGGCACCACCACGCGTCTTCTATAGCTCGGTGGATGAACTGCCTTCTCTGGAC TCCGAGTTCTATAAAAACCTCACCTCCATCAAGCGCTATGATGGGGACATCACTGACCTGGGCCTGACGCTGTCT TACGACGAGGACGTCATGGGTCAGCTTGTTTGCCATGAACTGATTCCTGGAGGGAAGACCATTCCTGTTACAAAT GAAAATAAGCAACAGAATTAGCTACATCCATCTGATGGCACATTTTCGAATGCACACTCAAATAAAAAACCAAAC AGCTGCCCTCATTAGCGGATTCCGTTCCATTATCAAACCCGAGTGGATCCGAATGTTCTCAACTCCTGAACTGCA GCGTCTCATCTCTGGCGACAATGCTGAGATTGATCTGGAAGATTTAAAGAAGCACACAGTCTACTACGGTGGTTT CCATGGAAGTCACAGAGTCATCATCTGGCTCTGGGATATTCTGGCCTCCGACTTCACACCGGATGAGAGAGCTAT

# FIGURE 3788B

GTTTCTGAAGTTCGTGACCAGCTGCTCCAGACCCCCGCTCCTGGGATTCGCCTACCTCAAGCCTCCATTCTCCAT CCGCTGCGTGGAGGTGTCGGACGATCAGGACACCGGGGACACTCTGGGCAGCGTCCTCCGGGGGCTTCTTCACCAT CCGCAAGCGGGAGCCAG

MFTLSQTSRAWFIDRARQAREERLVQKERERAAVVIQAHVRSFLCRSRLQRDIRREIDDFFKADDPESTKRSALC
IFKIARKLLFLFRIKEDNERFEKLCRSILSSMDAENEPKVWYVSLACSKDLTLLWIQQIKNILWYCCDFLKQLKP
EILQDSRLITLYLTMLVTFTDTSTWKILRGKGESLRPAMNHICANIMGHLNQHGFYSVLQILLTRGLARPRPCLS
KGTLTAAFSLALRPVIAAQFSDNLIRPFLIHIMSVPALVTHLSTVTPERLTVLESHDMLRKFIIFLRDQDRCRDV
CESLEGCHTLCLMGNLLHLGSLSPRVLEEETDGFVSLLTQTLCYCRKYVSQKKSNLTHWHPVLGWFSQSVDYGLN
ESMHLITKQLQFLWGVPLIRIFFCDILSKKLLESQEPAHAQPASPQNVLPVKSLLKRAFQKSASVRNILRPVGGK
RVDSAEVQKVCNICVLYQTSLTTLTQIRLQILTGLTYLDDLLPKLWAFICELGPHGGLKLFLECLNNDTEESKQL
LAMLMLFCDCSRHLITILDDIEVYEEQISFKLEELVTISSFLNSFVFKMIWDGIVENAKGETLELFQSVHGWLMV
LYERDCRRRFTPEDHWLRKDLKPSVLFQELDRDRKRAQLILQYIPHVIPHKNRVLLFRTMVTKEKEKLGLVETSS
ASPHVTHITIRRSRMLEDGYEQLRQLSQHAMKGVIRVKFVNDLGVDEAGIDQDGVFKEFLEEIIKRVFDPALNLF
KTTSGDERLYPSPTSYIHENYLQLFEFVGKMLGKAVYEGIVVDVPFASFFLSQLLGHHHSVFYSSVDELPSLDSE
FYKNLTSIKRYDGDITDLGLTLSYDEDVMGQLVCHELIPGGKTIPVTNENKISYIHLMAHFRMHTQIKNQTAALI
SGFRSIIKPEWIRMFSTPELQRLISGDNAEIDLEDLKKHTVYYGGFHGSHRVIIWLWDILASDFTPDERAMFLKF
VTSCSRPPLLGFAYLKPPFSIRCVEVSDDQDTGDTLGSVLRGFFTIRKREPGGRLPTSSTCFNLLKLPNYSKKSV
LREKLRYAISMNTGFELS

# FIGURE 3790A

 ${\tt GAAGCGCCGCCACCGCCGCCTTTGCTGTCCCCCGGCCTCTAGTTCCCCGCAGGTGGGAGGTGGGAGCC{\hbox{${\tt ATG}$}$}{\tt C}}{\tt C}$ GAACGTTTTTATGTGATGAGTGCTGCAGTGTCCATCGGAGTCTAGGGCGCCATATCTCCCAAGTGAGGCATCTGA AACACACCGTGGCCTCCAACACTGCTTCAGATGGTTGAGACCTTGTATAATAACGGTGCTAACTCTATATGGG AGCATTCTTTGCTGGACCCTGCGTCTATTATGAGTGGAAGACGTAAAGCTAATCCACAGGATAAAGTACATCCCA ATAAAGCGGAATTCATCAGAGCCAAGTATCAGATGTTAGCGTTCGTCCATCGCTTGCCCTGCCGGGATGACGATA GTGTGACTGCCAAAGATCTTAGCAAGCAACTCCATTCGAGCGTGAGAACAGGGAATCTTGAAACCTGTTTGAGAC TGTTATCTTTAGGAGCACAAGCCAACTTCTTTCATCCTGAAAAAGGAAACACCCCACTCCATGTTGCCTCCAAAG CAGGGCAGATTTTACAGGCTGAATTATTGGCAGTATATGGAGCAGACCCAGGCACACAGGATTCTAGTGGGAAAA CTCCCGTTGATTATGCAAGGCAAGGAGGGCACCATGAGCTGGCAGAGCGCCTCGTGGAAATACAGTATGAGCTAA CGGACAGACTAGCCTTCTATCTCTGTGGCAGGAAACCAGATCACAAAAATGGACAGCACTTTATAATACCTCAAA TGGCAGACAGCCTGGATTTGTCTGAATTGGCAAAAGCTGCTAAGAAGAAACTTCAATCTCTAAGTAATCATT TGTTTGAAGAACTTGCCATGGATGTACGATGAAGTTGACAGGCGAGAGACGGATGCAGTCTGGCTTGCCACGC AAAACCACAGCGCCCTGGTAACCGAGACAACGGTCGTCCCCTTTCTTCCGGTCAATCCTGAGTACTCATCAACAC GAAATCAGGGCAGACAGAAGTTAGCTCGGTTCAACGCCCATGAGTTTGCCACGCTGGTCATTGACATTCTCAGTG ACGCCAAGAGGAGACAGCAGGGCAGTTCTCTCTCGGGTTCAAAAGACAATGTGGAGCTCATACTGAAAACCATCA ATAACCAGCACAGCGTTGAGAGTCAAGACAACGATCAGCCCGACTATGACAGCGTGGCATCAGACGAAGACACAG ATTTGGAAACCACTGCAAGCAAAACAAACCGGCAGAAGAGCCTAGATTCAGATTTATCAGATGGACCAGTCACTG TACAGGAATTTATGGAGGTCAAAAACGCTCTAGTGGCTTCTGAGGCCAAGATACAGCAGCTAATGAAGGTGAATA ACAACTTGAGTGACGAGCTGAGAATTATGCAGAAAAAAGCTTCAAACACTCCAGAGTGAAAAATTCGAACCTCAGGA AACAGGCCACAACCAATGTATATCAGGTGCAAACTGGTTCTGAGTACACAGACACTTCCAACCACTCTTCCTTAA AGAGACGTCCGTCTGCCCGGGGCAGTAGGCCCATGTCCATGTACGAGACCGGATCAGGTCAGAAACCATATCTCC CAATGGGAGAGCCGACCCCCGAAGAGAGCAGGATGAGACTCCAGCCCTTCCCCGCGCACATCGGGAGGAGTG CACTTGTGACCTCCTCTTCATCTCTGCCTTCCTTCCCCTCCACACTTTCCTGGTCGAGGGACGAAAGCGCCCGAA GGGCATCCAGGCTGGAGAAGCAGAACAGCACACCTGAGAGTGACTACGACAACACTCCCAACGACATGGAGCCAG ATGGCATGGGGTCAAGCCGAAAGGACGCCAAAGAAGTATGGTGTGGCCAGGGGATGGCTTGGTACCAGACACAG CAGAACCCCATGTGGCCCCAAGCCCCACTCTCCCTAGCACCGAAGATGTCATCAGGAAGACTGAACAGATCACCA AAAACATACAGGAGCTCTTAAGAGCAGCCCAAGAAAATAAACATGACAGTTATATTCCCTGCTCAGAGAGGATAC ACGTAGCTGTTACAGAAATGGCAGCATTATTCCCCAAAAAACCCAAGTCTGATATGGTGAGGACTTCCCTTCGTT TACTGACGTCCAGTGCCTACCGACTGCAGTCAGAGTGCAAGAAGACCCTCCCAGGGGACCCCGGCTCACCACAG ACGTTCAGCTGGTCACGCAGCAGGTCATCCAGTGTGCGTACGACATCGCCAAGGCTGCCAAGCAGCTGGTTACCA  ${\tt TCACCACCAAAGAGAACAACAAC} \underline{{\tt TGA}} {\tt CAAGGGCAGGGCACCGCCTCCTCTGTTTTCTAGGCTTTATAAAGTCCAA}$ TTTCAAATTCAGACGCAGAACTCTTCAGATTTCTACAAAAAGAAACATTTAATGACGGTTTAAAACTTTTTAAAA GAAAACTCAGTATTATTTTTGCATGTTTTCTAACCAATTTTCAACTATTTAACCCACTTGCCTTATTTTGTGCCT AGTTTCATTGTCTAAAGTTTGTGAAAACTTTTCCATCCCTTAAAACTCCCTGCCTATGGCTGAAACTATAAATGA AATTTTCATAAAACATTTTCTTGAGAGAGTTCAGTTAAAAAAGAAAAATCAGCGTCATTTGTTCCCTGCCAAG GAAAGGACTTTGCCGCTTTTTAAAACTAGTGTCACAGTCTCTCTTGGGAGGAAACAATGAATTGGTTCATTTCTT CTCAGTGTTTTACCCTGTTACATGTTCTGTTATTTAATGTTGTTATCTCAAGCTCCTATCTCTTGATGTTTTCTT GTCATCTTGAAGGCTCCATGGAATGAGATAAAGCATTGACCCACCACAGGACATCTCATGAAGCCATGTTCAGGG TAGGAGCTCCACGCACATCACCACTCATCACGTGTCAGGTGCTCTCCCTCACCCCTGTAAGCCAGACAGTTTGTTCAAA ACCTGCAGCAAAGAGAAGCATCAGTCTAACAAGCCAGAACTCATTTTGTGCCACCCATTTAGGTATCACTACCAT TGACCACTTACAGCTTCTCACATGAGTTGCTTCACATTTTTCATCATCTTTAAGGACTTCTTATAAGGAAAGAT GTATCGTATCGCAGTCATCTGAGTTAGTTTCTCCTCCATCACCTCATGAGTACTTAAAAATTAGACATCAACTTT TGGAACATGCTCAGATTGTTTTTTAGTTACTCAAAAGCCCCTTCTTGTTCTGAATGTGAAAGCTCTTCCCGTTCC

## FIGURE 3790B

TGCTTACTGCAGCCATTCTGTGTGTGTGTGTCAGACCCTGGCCTAGGGCCGGTGATGTGGATGAGTGAAGGGAGC CAGGTACACGGCAGCAGGGCAGAGGAGACTATGGGGAGCCCACCGCCTACACAGTAGGGGCAGTAGCCCCCAGCT CCACGCCTGTTGCCATGTGGAAAAGTGGGCCTAGGGTGGCCACAGCTTTGATTTTTCAAGAGACAAGAAACCTAG ATGTTTTTTGGTGCCATCTCCCATTTATAAATGTTGGCAACCAATTTGAACACTTTCAGAGACCATGTGCAGGT GAGCTGTGTCCTCTAGGCTGCCAGCTCACAGCCCCCACCCCAGGGCCCTGTAAGCTGTGCAGTGTGAGGGCCTGG CTTCCCCGGACACCCTGGAGCAGCCTCTGAGTCTTACCCGTAATGGAGCCGGCCAACCCTGTGTGTTATGTTGC TGTCGCTCCTGTTTTTAACCATATGTTCTGTCCCATAGCAGTCATTCACACATGTGAAGAAGACACAAGAATCAA AGTACAAGTTGCCTCAATACATGCTAATAACTAAGCTTCTATTTTCACAGGACTGATCGATGCACACCTTTATAG CACAGCCCTAAGTGCCACATTGCTGTTGGATGCTCCCGGGATGCCTTCTAGAAGGGGGGCCTCCCACCTTAAGTTC AGGCGCCATCTGATAGCCTTTTCTGCAGGCTTCATGTCCTTAGCTGACCCTCCTTTATCTTGCAAACCCCTGCCC CTGCTGTCCCAGGGAGGACGGGCTTCTGTAGAGGCTTCTGGGAAATGAGCTGTCTGCAGGAGGTGAAGCAGTGTT TTCCTTGGAATGTTTGAGGACCTGCAATAGAAGATGTTGCCTTTATGGCCCTAGAGAAAGTCAAGGAACATGGGG ACCAACAAAGCATTTCCAGTTGTAAGAATATGTCAGAAGAGTGCTCGGTTAGCCCACGGTGCCAAAACTCCAAAC AAGTTCCCCGGTGGAATGACGTGGCCATTGGAGGGCTGCAGGTCGTCCTCTGTATGTGCCCCGCGCATTTCCT TGGCCTCATCTGAGATCTGGTGTCAGAGTTCTCTGCTCCTGTTGGCAAATCGCACCTTATCTGAACATTTGTTCC AGCCACCTTTTGCACATGGATTCCGTACCTTGCACTAGCAATGTCTACCTTCAGTAACGTCGTTCTTTTTCACCC TGTATTCTCAATGATCCCTTCCTCCCCATATGCCACCCTTCCCCCAAAGCTGATAGGGCAGAGGTGCACTTTATG AAACTGGCACTTGACTGAACAGAAGGAAACAGCTGTACCTCTAAGCTCCTTTCACAGAAATCGTCATCTGCCTTG GAATGCAAATAGTTCTTATTTGCCAAAGAACAGTGAATTGGGCCCAAAGATCAAACACAGCATTTCATGTAATCA GAATTCTAAACGCACAACTCGGGAGCTGTGCACGGCTTCTCAAGTGATTCAGTTGCAGAACCAAGAGCAAAACTC GGTAACGTGTTCCTAGAAAAGAAAATGCTGCATAGGAAAACTGAGATGCCTTTTATTCCAACGTGTTTGATCCCT GTCACTCATTATTCTGTACTTTTTTTTGTACATTCTATTCCTGTAATTATTGTGCCCTTTAAGTGTTGTAAAATC GTTTTGGAATTTGTGCCTGCTAGTTATGCAATAAACAGGCTCTACAAGTG

PCT/US2003/028547

# FIGURE 3791

WO 2004/030615

MSKRLRSSEVCADCSGPDPSWASVNRGTFLCDECCSVHRSLGRHISQVRHLKHTPWPPTLLQMVETLYNNGANSI
WEHSLLDPASIMSGRRKANPQDKVHPNKAEFIRAKYQMLAFVHRLPCRDDDSVTAKDLSKQLHSSVRTGNLETCL
RLLSLGAQANFFHPEKGNTPLHVASKAGQILQAELLAVYGADPGTQDSSGKTPVDYARQGGHHELAERLVEIQYE
LTDRLAFYLCGRKPDHKNGQHFIIPQMADSSLDLSELAKAAKKKLQSLSNHLFEELAMDVYDEVDRRETDAVWLA
TQNHSALVTETTVVPFLPVNPEYSSTRNQGRQKLARFNAHEFATLVIDILSDAKRRQQGSSLSGSKDNVELILKT
INNQHSVESQDNDQPDYDSVASDEDTDLETTASKTNRQKSLDSDLSDGPVTVQEFMEVKNALVASEAKIQQLMKV
NNNLSDELRIMQKKLQTLQSENSNLRKQATTNVYQVQTGSEYTDTSNHSSLKRRPSARGSRPMSMYETGSGQKPY
LPMGEASRPEESRMRLQPFPAHIGRSALVTSSSSLPSFPSTLSWSRDESARRASRLEKQNSTPESDYDNTPNDME
PDGMGSSRKGRQRSMVWPGDGLVPDTAEPHVAPSPTLPSTEDVIRKTEQITKNIQELLRAAQENKHDSYIPCSER
IHVAVTEMAALFPKKPKSDMVRTSLRLLTSSAYRLQSECKKTLPGDPGSPTDVQLVTQQVIQCAYDIAKAAKQLV

## FIGURE 3792A

 ${\tt GAAGCGCCGCCACCGCCCTTTGCTGTCCCCCGGCCTCTAGTTCCCCGCAGGTGGGAGGTGGGAGCC} \underline{{\tt ATG}}{\tt T}$ GAACGTTTTTATGTGATGAGTGCTGCAGTGTCCATCGGAGTCTAGGGCCCCATATCTCCCCAAGTGAGGCATCTGA AACACACCGTGGCCTCCAACACTGCTTCAGATGGTTGAGACCTTGTATAATAACGGTGCTAACTCTATATGGG AGCATTCTTTGCTGGACCCTGCGTCTATTATGAGTGGAAGACGTAAAGCTAATCCACAGGATAAAGTACATCCCA ATAAAGCGGAATTCATCAGAGCCAAGTATCAGATGTTAGCGTTCGTCCATCGCTTGCCCTGCCGGGATGACGATA GTGTGACTGCCAAAGATCTTAGCAAGCAACTCCATTCGAGCGTGAGAACAGGGAATCTTGAAACCTGTTTGAGAC TGTTATCTTTAGGAGCACAAGCCAACTTCTTTCATCCTGAAAAAGGAAACACCCCACTCCATGTTGCCTCCAAAG CAGGGCAGATTTTACAGGCTGAATTATTGGCAGTATATGGAGCAGACCCAGGCACACAGGATTCTAGTGGGAAAA TGGCAGACAGCCTGGATTTGTCTGAATTGGCAAAAGCTGCTAAGAAGAAACTTCAATCTCTAAGTAATCATT TGTTTGAAGAACTTGCCATGGATGTACGATGAAGTTGACAGGCGAGAGACGGATGCAGTCTGGCTTGCCACGC AAAACCACAGGGCCCTGGTAACCGAGACAACGGTCGTCCCCTTTCTTCCGGTCAATCCTGAGTACTCAACAC GAAATCAGGGCAGACAGAAGTTAGCTCGGTTCAACGCCCATGAGTTTGCCACGCTGGTCATTGACATTCTCAGTG ATAACCAGCACAGCGTTGAGAGTCAAGACAACGATCAGCCCGACTATGACAGCGTGGCATCAGACGAAGACACAG ATTTGGAAACCACTGCAAGCAAACAAACCGGCAGAAGCTTCAAACACTCCAGAGTGAAAATTCGAACCTCAGGA AACAGGCCACAACCAATGTATATCAGGTGCAAACTGGTTCTGAGTACACAGACACTTCCAACCACTCTTCCTTAA AGAGACGTCCGTCTGCCCGGGGCAGTAGGCCCATGTCCATGTACGAGACCGGATCAGGTCAGAAACCATATCTCC AGAAGCAGAACAGCACACCTGAGAGTGACTACGACAACACTCCCAACGACATGGAGCCAGATGGCATGGGGTCAA GCCGAAAGGGACGCCAAAGAAGTATGGTGTGGCCAGGGGATGGCTTGGTACCAGACACAGCAGAACCCCATGTGG CCCCAAGCCCCACTCTCCCTAGCACCGAAGATGTCATCAGGAAGACTGAACAGATCACCAAAAACATACAGGAGC TCTTAAGAGCAGCCCAAGAAAATAAACATGACAGTTATATTCCCTGCTCAGAGAGGATACACGTAGCTGTTACAG AAATGGCAGCATTATTCCCCAAAAAACCCAAGTCTGATATGGTGAGGACTTCCCTTCGTTTACTGACGTCCAGTG CCTACCGACTGCAGTCAGAGTGCAAGAAGACCCTCCCAGGGGACCCCGGCTCACCCACAGACGTTCAGCTGGTCA CGCAGCAGGTCATCCAGTGTGCGTACGACATCGCCAAGGCTGCCAAGCAGCTGGTTACCATCACCAAAGAGA CAGAACTCTTCAGATTTCTACAAAAAGAAACATTTAATGACGGTTTAAAACTTTTTAAAAGAAAACTCAGTATTA TTTTTGCATGTTTTCTAACCAATTTTCAACTATTTAACCCACTTGCCTTATTTTGTGCCTATTTGCTGGTTTAGT AGTTTGTGAAAACTTTTCCATCCCTTAAAACTCCCTGCCTATGGCTGAAACTATAAATGAAATTTTTCATAAAAC ATTTTCTTGAGAGAGTTCAGTTAAAAAAGAAAAATCAGCGTCATTTGTTCCCTGCCAAGCATCGTGCAATAAGT CTTTTTAAAACTAGTGTCACAGTCTCTCTTGGGAGGAAACAATGAATTGGTTCATTTCTTCTCAGTGTTTTACCC TGTTACATGTTCTGTTATTTAATGTTGTTATCTCAAGCTCCTATCTCTTGATGTTTTCTTGTCATCTTGAAGGCT CCATGGAATGAGATAAAGCATTGACCCACCACAGGACATCTCATGAAGCCATGTTCAGGGTAGGAGCTCCACGCA CATCACCACCCATTGTCAGGTGCTCTCCCTCACCCCTGTAAGCCAGACAGTTTGTTCAAAACCTGCAGCAAAGAG AAGCATCAGTCTAACAAGCCAGAACTCATTTTGTGCCACCCATTTAGGTATCACTACCATGAACTATAGGGAAAA TTCTCACATGAGTTGCTTCACATTTTTCATCATCTTTAAGGACTTCTTATAAGGAAAGATGTATCGTATCGCAGT CATCTGAGTTAGTTTCTCCTCCATCACCTCATGAGTACTTAAAAATTAGACATCAACTTTCAAGAGTTCCTTAGA GAGTGTGCTCTAGCTGCCTGCCTACCCCAAAGCTCTGAAAGAGTAAGGTTGAAGTGCTGGAACATGCTCAGA TTGTTTTTTAGTTACTCAAAAGCCCCTTCTTGTTCTGAATGTGAAAGCTCTTCCCGTTCCTGCTTACTGCAGCCA TTCTGTGTGTGTGTCAGACCCTGGCCTAGGGCCGGTGATGTGGATGAGGGAGCCAGGTACACGGCAGC AGGGCAGAGGAGACTATGGGGAGCCCACCGCCTACACAGTAGGGGCAGTAGCCCCCAGCTCCACGCCTGTTGCCA TGTGGAAAAGTGGGCCTAGGGTGGCCACAGCTTTGATTTTTCAAGAGACAAGAAACCTAGATGTTTTTTGGTGCC PCT/US2003/028547

## FIGURE 3792B

WO 2004/030615

 ${\tt ATCTCTCCATTTATAAATGTTGGCAACCAATTTGAACACTTTCAGAGACCATGTGCAGGTGAGCTGTGTCCTCTA}$ GGCTGCCAGCTCACAGCCCCCACCCCAGGGCCCTGTAAGCTGTGCAGTGTGAGGGCCTGGCTTCCCCGGACACAC CTGGAGCAGCCTCTGAGTCTTACCCGTAATGGAGCCGGCCAACCCTGTGTGTTATGTTGCTGCTCCTGTTTTT TAACCATATGTTCTGTCCCATAGCAGTCATTCACACATGTGAAGAAGACACAAGAATCAAAGTTACAAGTTGCCTC AATACATGCTAATAACTAAGCTTCTATTTTCACAGGACTGATCGATGCACACCTTTATAGCTTGACCATATGCTG TCATGAAAGTAGCACCCCGACGGTGCTTGCTTTACTAAGTCACCGTGTGTGGATGCTTTTGTCGCATTTTGCTTC CACATTGCTGTTGGATGCTCCCGGGATGCCTTCTAGAAGGGGGCCTCCCACCTTAAGTTCAGGCGCCATCTGATA GCCTTTCTGCAGGCTTCATGTCCTTAGCTGACCCTCCTTTATCTTGCAAACCCCTGCCCCTGCTGTCCCAGGGA GGACGGCTTCTGTAGAGGCTTCTGGGAAATGAGCTGTCTGCAGGAGGTGAAGCAGTGTTTTCCTTGGAATGTTT GAGGACCTGCAATAGAAGATGTTGCCTTTATGGCCCTAGAGAAAGTCAAGGAACATGGGGACCAACAAAGCATTT CCAGTTGTAAGAATATGTCAGAAGAGTGCTCGGTTAGCCCACGGTGCCAAAAACTCCAAACAGTTCCCCGGTGGA ATGACGTGGCCATTGGAGGGCTGCAGGTCGTCCTCTGTATGTGCCCCGCGCATTTCCTTGGCCTCATCTGAGA TCTGGTGTCAGAGTTCTCTGCTCCTGTTGGCAAATCGCACCTTATCTGAACATTTGTTCCAGCCACCTTTTGCAC ATGGATTCCGTACCTTGCACTAGCAATGTCTACCTTCAGTAACGTCGTTCTTTTTCACCCTGTATTCTCAATGAT CCCTTCCTCCCCATATGCCACCCTTCCCCCAAAGCTGATAGGGCAGAGGTGCACTTTATGAAACTGGCACTTGAC TGAACAGAAGGAAACAGCTGTACCTCTAAGCTCCTTTCACAGAAATCGTCATCTGCCTTGGAATGCAAATAGTTC TTATTTGCCAAAGAACAGTGAATTGGGCCCAAAGATCAAACACAGCATTTCATGTAATCAGAATTCTAAACGCAC AACTCGGGAGCTGTGCACGGCTTCTCAAGTGATTCAGTTGCAGAACCAAGAGCAAAACTCGCCTGTTTTTGTCCT GAAAAGAAATGCTGCATAGGAAAACTGAGATGCCTTTTATTCCAACGTGTTTGATCCCTGTCACTCATTATTCT GTACTTTTATTGTACATTCTATTCCTGTAATTATTGTGCCCTTTAAGTGTTGTAAAATCGTTTTTGGAATTTGTG CCTGCTAGTTATGCAATAAACAGGCTCTACAAGTG

# FIGURE 3793

MSKRLRSSEVCADCSGPDPSWASVNRGTFLCDECCSVHRSLGRHISQVRHLKHTPWPPTLLQMVETLYNNGANSI
WEHSLLDPASIMSGRRKANPQDKVHPNKAEFIRAKYQMLAFVHRLPCRDDDSVTAKDLSKQLHSSVRTGNLETCL
RLLSLGAQANFFHPEKGNTPLHVASKAGQILQAELLAVYGADPGTQDSSGKTPVDYARQGGHHELAERLVEIQYE
LTDRLAFYLCGRKPDHKNGQHFIIPQMADSSLDLSELAKAAKKKLQSLSNHLFEELAMDVYDEVDRRETDAVWLA
TQNHSALVTETTVVPFLPVNPEYSSTRNQGRQKLARFNAHEFATLVIDILSDAKRRQQGSSLSGSKDNVELILKT
INNQHSVESQDNDQPDYDSVASDEDTDLETTASKTNRQKLQTLQSENSNLRKQATTNVYQVQTGSEYTDTSNHSS
LKRRPSARGSRPMSMYETGSGQKPYLPMGEASRPEESRMRLQPFPAHASRLEKQNSTPESDYDNTPNDMEPDGMG
SSRKGRQRSMVWPGDGLVPDTAEPHVAPSPTLPSTEDVIRKTEQITKNIQELLRAAQENKHDSYIPCSERIHVAV
TEMAALFPKKPKSDMVRTSLRLLTSSAYRLQSECKKTLPGDPGSPTDVQLVTQQVIQCAYDIAKAAKQLVTITIK
ENNN

GGCACGAGGGTTGCTTTATACTCAGAATGGAAATACCTGATCTTGGCTAGTTTTGTTATAAGATATTGATTTCA TTTAGATTTCCCTCCACGAGGTCAGCAAACTATCATGTTCTTATGTAAACTTAGGCCAAGGCCAGAGTTATCATA  $\tt GTCCCTAGGTTGCTACGGCTTATC \underline{\textbf{ATG}} \texttt{TGCTTGGTAAAAGGTGATCGCAGGTTCTCAGACGAGTTTACTTTACAT}$ GTTGTTTGGAAAGTCGGTGTGACAGACACATGGATGCCATCTACTTCTAGGTTGCTGGTGGGTATTAAATATGCA CAATATTCCATAGCTCACTGAGGATTTTAAAATTATAAGCATAGGATTTTATATTTTGGGGTGAAAGAATTATCT AGGCGCTTCATGTCCAGTGTGTGGCCCTTCTGAAACTTATGGTCATCTCTCCCACTGAAACCAAGGTCTTTTCAA  $\tt CTTCGGGGAAACAGCCAGGAAAATGGTCAAGATTATTTTTAGAGGTTATTTTATTGGGGATTTTAAGAACTAATA$ TCCATAAGGGAAACTTAGACTATAGACATAACTACAAAGCCAGTGCAGCTTTTGTTTTCTGTATGTTGTTGGGGG ATCAACTTTCACACATAGCAAGCACATGGCCTCCCTGATGTCAGGATGCCTTTGTTAGGATCTGTATTTGCCCTT AATTTTGTTGAAATCTTTTTTCCTTCTTCCTCTTGAAAAGTTCCAAAATATAGTTTATTGTATCTTTCATCACTA AAAATTTGTTCCTTTTTCACTATGGGCAGTTCACACAAGGCAAAAACTATTGAACAGTTGGTTTTAGTGTGTTGT CTGTTTATTATGACCTAATTGTGATTCTTTTATTAATAAAAGCTAATGGGAAAAGGATCCCTGATTAAGCTGAT GACTAGACCTACAATTAATTTTCCTGCAGTATATGAAGTATTGTACCAGAGTATTAAAAGATATGTAATATTTTA TTGATAAATCTATCCTTTAAAAGGAATACGTTTTAGGATGTCATCATTTTGATGTGAATCATGTAAATGTTGATA ATATGCTGTTTATTATACATTTAGTGTTTCAAGAGATTCACTTAATTGCCCTTTTTGCCCCACGTATATTATGTAGT CTATTTGCAACTGTTCTTAAAAAATGACATTAAAAGAATAGTTTATGTAGAGAAACATTAGTGGATGTTAATTG TCTCCCCACCTATATTTATGGGTGTTAGCGCAACTGCTTTGCTAGTTGCAAAGCTGTATTATCAGAGTAAAAGTG 

 ${\tt MCLVKGDRRFSDEFTLHEMESGREAGMMEKARGEVLKKKLWKGKFQRGGF}$ 

#### 4117/6881 FIGURE 3796A

GCCCTGCTTCCCCTTGCACCTGCGCCGGCCGCCATGGACTTGTACAGCACCCCGGCCGCTGCGCTGGACAGGTT CCTGAGGGAGCGCGGGGCCGCCTCGGTGCTGCCCCGCGGGTGCTGAAAACTGTCAAGGGAGGCTCCTCGGG CCGGGGCACAGCTCTCAAGGGTGGCTGTGATTCTGAACTTGTCATCTTCCTCGACTGCTTCAAGAGCTATGTGGA CCAGAGGGCCCGCCGTGCAGAGATCCTCAGTGAGATGCGGGCATCGCTGGAATCCTGGTGGCAGAACCCAGTCCC TGGTCTGAGACTCACGTTTCCTGAGCAGAGCGTGCCTGGGGGCCCTGCAGTTCCGCCTGACATCCGTAGATCTTGA GGACTGGATGGATGTTAGCCTGGTGCCTTCAATGTCCTGGGTCAGGCCGGCTCCGGCGTCAAACCCAAGCC ACAAGTCTACTCTACCCTCCTCAACAGTGGCTGCCAAGGGGGGCGAGCATGCGGCCTGCTTCACAGAGCTGCGGAG GAACTTTGTGAACATTCGCCCAGCCAAGTTGAAGAACCTAATCTTGCTGGTGAAGCACTGGTACCACCAGGTGTG CCTACAGGGGTTGTGGAAGGAGACGCTGCCCCGGTCTATGCCCTGGAATTGCTGACCATCTTCGCCTGGGAGCA GGGCTGTAAGAAGGATGCTTTCAGCCTAGCCGAAGGCCTCCGAACTGTCCTGGGCCTGATCCAACAGCATCAGCA CCTGTGTGTTTTCTGGACTGTCAACTATGGCTTCGAGGACCCTGCAGTTGGGCAGTTCTTGCAGCGGCAGCTTAA GAGACCCAGGCCTGTGATCCTGGACCCAGCTGACCCCACATGGGACCTGGGGAATGGGGCAGCCTGGCACTGGGA TTTGCTAGCCCAGGAGGCAGCATCCTGCTATGACCACCCATGCTTTCTGAGGGGGATGGGGGACCCAGTGCAGTC TTGGAAGGGCCGGGCCTTCCACGTGCTGGATGCTCAGGTTTGGGCCACCCCATCCAGCTAGACCCTAACCAGAA TGGCCCCACTGGGGCAGCCAGCATCGTCCCCTCTGTGCCGGGAATGGCCTTGGACCTGTCTCAGATCCCCACCAA GGAGCTGGACCGCTTCATCCAGGACCACCTGAAGCCGAGCCCCCAGTTCCAGGAGCAGGTGAAAAAGGCCATTGA CATCATCTTGCGCTGCCTCCATGAGAACTGTGTTCACAAGGCCTCAAGAGTCAGTAAAGGGGGCTCATTTGGCCG GGGCACAGACCTAAGGGATGGCTGTGATGTTGAACTCATCATCTTCCTCAACTGCTTCACGGACTACAAGGACCA GGGGCCCGCCGCGCAGAGATCCTTGATGAGATGCGAGCGCAGCTAGAATCCTGGTGGCAGGACCAGGTGCCCAG CCTGAGCCTTCAGTTTCCTGAGCAGAATGTGCCTGAGGCTCTGCAGTTCCAGCTGGTGTCCACAGCCCTGAAGAG CTGGACGGATGTTAGCCTGCCTGCCTTCGATGCTGTGGGGCAGCTCAGTTCTGGCACCAAACCAAATCCCCA GGTCTACTCGAGGCTCCTCACCAGTGGCTGCCAGGAGGGCGAGCATAAGGCCTGCTTCGCAGAGCTGCGGAGGAA CTTCATGAACATTCGCCCTGTCAAGCTGAAGAACCTGATTCTGCTGGTGAAGCACTGGTACCGCCAGGTTGCGGC TCAGAACAAAGGAAAAGGACCAGCCCTGCCTCTCTGCCCCAGCCTATGCCCTGGAGCTCCTCACCATCTTTGC CTGGGAGCAGGCTGCAGGCAGGATTGTTTCAACATGGCCCAAGGCTTCCGGACGGTGCTGGGGCTCGTGCAACA GCATCAGCAGCTCTGTGTCTACTGGACGGTCAACTATAGCACTGAGGACCCAGCCATGAGAATGCACCTTCTTGG CCAGCTTCGAAAACCCAGACCCCTGGTCCTGGACCCCGCTGATCCCACCTGGAACGTGGGCCACGGTAGCTGGGA GCTGTTGGCCCAGGAAGCAGCGCTGGGGATGCAGGCCTGCTTTCTGAGTAGAGACGGGACATCTGTGCAGCC CTGGGATGTGATGCCAGCCCTCCTTTACCAAACCCCAGCTGGGGACCTTGACAAGTTCATCAGTGAATTTCTCCA GCCCAACCGCCAGTTCCTGGCCCAGGTGAACAAGGCCGTTGATACCATCTGTTCATTTTTGAAGGAAAACTGCTT  ${\tt CCGGAATTCTCCCATCAAAGTGATCAAGGTGGTCAAGGGTGGCTCTTCAGCCAAAGGCACAGCTCTGCGAGGCCG}$ CTCAGATGCCGACCTCGTGGTGTTCCTCAGCTGCTTCAGCCAGTTCACTGAGCAGGGCAACAAGCGGGCCGAGAT CATCTCCGAGATCCGAGCCCAGCTGGAGGCATGTCAACAGGAGCGGCAGTTCGAGGTCAAGTTTGAAGTCTCCAA ATGGGAGAATCCCCGCGTGCTGAGCTTCTCACTGACATCCCAGACGATGCTGGACCAGAGTGTGGACTTTGATGT GCTGCCAGCCTTTGACGCCCTAGGCCAGCTGGTCTCTGGCTCCAGGCCCAGCTCTCAAGTCTACGTCGACCTCAT CCACAGCTACAGCAATGCGGGCGAGTACTCCACCTGCTTCACAGAGCTACAACGGGACTTCATCATCTCTCGCCC TACCAAGCTGAAGAGCCTGATCCGGCTGGTGAAGCACTGGTACCAGCAGTGTACCAAGATCTCCAAGGGGAGAGG CTCCCTACCCCACAGCACGGGCTGGAACTCCTGACTGTGTATGCCTGGGAGCAGGGCGGGAAGGACTCCCAGTT CAACATGGCTGAGGGCTTCCGCACGGTCCTGGAGCTGGTCACCCAGTACCGCCAGCTCTGTATCTACTGGACCAT CAACTACAACGCCAAGGACAAGACTGTTGGAGACTTCCTGAAACAGCAGCTTCAGAAGCCCAGGCCTATCATCCT GGATCCGGCTGACCCGACAGCAACCTGGGCCACAATGCCCGCTGGGACCTGCTGGCCAAGGAAGCTGCAGCCTG CACATCTGCCCTGTGCTGCATGGGACGGAATGGCATCCCCATCCAGCCATGGCCAGTGAAGGCTGCTGTGTAAG TTGAGAAAATCAGCGGTCCTACTGGATGAAGAGAAGATGGACACCAGCCCTCAGCATGAGGAAATTCAGGGTCCC CTACCAGATGAGAGAGTTGTGTACATGTGTGTGTGAGCACATGTGTGCATGTGTGCACACGTGTGCATGTGT GTGTTTTAGTGAATCTGCTCTCCCAGCTCACACACTCCCCTGCCTCCCATGGCTTACACACTAGGATCCAGACTC CATGGTTTGACACCAGCCTGCGTTTGCAGCTTCTCTGTCACTTCCATGACTCTATCCTCATACCACCACTGCTGC

#### FIGURE 3796B

TGCTGCAATCCATCCCTTCCTCCCATTGGCCTCTCCTTGCCAAATCTAAATAGTTTATATAGGGATGGCAGAGAG TTCCCATCTCATCTGTCAGCCACAGTCATTTGGTACTGGCTACCTGGAGCCTTATCTTCTGAAGGGTTTTAAAGA ATGGCCAATTAGCTGAGAAGAATTATCTAATCAATTAGTGATGTCTGCCATGGATGCAGTAGAGGAAAGTGGTGG TACAAGTGCCATGATTGATTAGCAATGTCTGCACTGGATACGGAAAAAAGAAGGTGCTTGCAGGTTTACAGTGTA TATGTGGGCTATTGAAGAGCCCTCTGAGCTCGGTTGCTAGCAGGAGAGCATGCCCATATTGGCTTACTTTGTCTG CCACAGACAGACAGAGGGAGTTGGGACATGCATGCTATGGGGACCCTCTTGTTGGACACCTAATTGGATGCCT  $\tt CTTCATGAGAGGCCTCCTTTTCTTCACCTTTTATGCTGCACTCCTCCCCTAGTTTACACATCTTGATGCTGTGGC$ TCAGTTTGCCTTCCTGAATTTTTATTGGGTCCCTGTTTTCTCTCCTAACATGCTGAGATTCTGCATCCCCACAGC CTAAACTGAGCCAGTGGCCAAACAACCGTGCTCAGCCTGTTTCTCTCTGCCCTCTAGAGCAAGGCCCACCAGGTC CATCCAGGAGGCTCTCCTGACCTCAAGTCCAACAACAGTGTCCACCACTAGTCAAGGTTCAGCCCAGAAAACAGAA AGCACTCTAGGAATCTTAGGCAGAAAGGGATTTTATCTAAATCACTGGAAAGGCTGGAGGAGCAGAAGGCAGAGG CCACCACTGGACTATTGGTTTCAATATTAGACCACTGTAGCCGAATCAGAGGCCAGAGAGCCACTGCTACTG CTAATGCCACCACTACCCCTGCCATCACTGCCCCACATGGACAAAACTGGAGTCGAGACCTAGGTTAGATTCCTG CAACCACAAACATCCATCAGGGATGGCCAGCTGCCAGAGCTGCGGGAAGACGGATCCCACCTCCCTTTCTTAGCA GAATCTAAATTACAGCCAGACCTCTGGCTGCAGAGGAGTCTGAGACATGTATGATTGAATGGGTGCCAAGTGCCA GGGGGCGGAGTCCCCAGCAGATGCATCCTGGCCATCTGTTGCGTGGATGAGGGAGTGGGTCTATCTCAGAGGAAG TCCACAAACCACTGTTAAAACTTACCTGCTAGGAATGCTAGATTGAATGGGATGGGAAGAGCCTTCCCTCATTAT TGTCATTCTTGGAGAGAGGTGAGCAACCAAGGGAAGCTCCTCTGATTCACCTAGAACCTGTTCTCTGCCGTCTTT GGCTCAGCCTACAGAGACTAGAGTAGGTGAAGGGACAGAGGACAGGGCTTCTAATACCTGTGCCATATTGACAGC  $\tt CTCCATCCCGTGTCCCCCATCTTGGTGCTGAACCAACGCTAAGGGCACCTTCTTAGACTCACCTCATCGATACTGC$ TATCCAAGAGCTCAGGGCCAGTTCTGGTGGGCAGCAGAGCCTGCTCTGCCAAGTTGTCCAGCAGAGTGGCC CTGGCCTGGGCATCACAAGCCAGTGATGCTCCTGGGAAGACCAGGTGGCAGGTCGCAGTTGGGTACCTTCCATTC CCACCACACAGACTCTGGGCCTCCCGCAAAATGGCTCCAGAATTAGAGTAATTATGAGATGGTGGGAACCAGAG CAACTCAGGTGCATGATACAAGGAGGGTTGTCATCTGGGTAGGGCAGAGAGGGGCTTGCTCATCTGAACAGG GGTGTATTTCATTCCAGGCCCTCAGTCTTTGGCAATGGCCACCCTGGTGTTGGCATATTGGCCCCACTGTAACTT TTGGGGGCTTCCCGGTCTAGCCACACCCTCGGATGGAAAGACTTGACTGCATAAAGATGTCAGTTCTCCCTGAGT TGATTGATAGGCTTAATGGTCACCCTAAAAACACCCACATATGCTTTTCGATGGAACCAGGTAAGTTGACGCTAA AGTTCTTATGGAAAAATACACACGCAATAGCTAGGAAAACACAGGGAAAGAAGAGTTCTGAGCAGGGCCTAGTCT TAGCCAATATTAAAACATACTATGAAGCCTCTGATACTTAAACAGCATGGCGCTGGTACGTAAATAGACCAATGC CTAAGTGAGAGAGCCAGAGGGCCTCCTTGGTGGTAAAAGAGGGTTGCATTTCTTGCAGCCAGAAGGCAGAGAAAG TGTGTGTGTGTTTTAATTTTTAAAAAGTTTTTATT

TATCCAGGAATACCTGAAGCCCTACGAAGAATGTCAGACACTGATCGACGAGATGGTGAACACCATCTGTGACGT CCTGCAGGAACCCGAACAGTTCCCCCTGGTGCAGGGAGTGGCCATAGGTGGCTCCTATGGACGGAAAACAGTCTT AAGAGGCAACTCCGATGGTACCCTTGTCCTCTTCTTCAGTGACTTAAAACAATTCCAGGATCAGAAGAAGAAGCCA GATCCAGAAGTCCCTTGATGGGTTCACCATCCAGGTGTTCACAAAAAATCAGAGAATCTCTTTCGAGGTGCTGGC CGCCTTCAACGCTCTGAGCTTAAATGATAATCCCAGCCCCTGGATCTATCGAGAGCTCAAAAAGATCCTTGGATAA GACAAATGCCAGTCCTGGTGAGTTTGCAGTCTGCTTCACTGAACTCCAGCAGAAGTTTTTTGACAACCGTCCTGG AAAACTAAAGGATTTGATCCTCTTGATAAAGCACTGGCATCAACAGTGCCAGAAAAAAATCAAGGATTTACCCTC GCTGTCTCCGTATGCCCTGGAGCTGCTTACGGTGTATGCCTGGGAACAGGGGTGCAGAAAAGACAACTTTGACAT TGCTGAAGGCGTCAGAACCGTACTGGAGCTGATCAAATGCCAGGAGAAGCTGTGTATCTATTGGATGGTCAACTA CAACTTTGAAGATGAGACCATCAGGAACATCCTGCTGCACCAGCTCCAATCAGCGAGGCCAGTAATCTTGGATCC AGTTGACCCAACCAATAATGTGAGTGGAGATAAAATATGCTGGCAATGGCTGAAAAAAGAAGCTCAAACCTGGTT TGTTAACATCATCCGTACATTCCTTAAAGAAAACTGCTTCCGACAATCAACAGCCAAGATCCAGATTGTCCGGGG AGGATCAACCGCCAAAGGCACAGCTCTGAAGACTGGCTCTGATGCCGATCTCGTCGTGTTCCATAACTCACTTAA AAGCTACACCTCCCAAAAAAACGAGCGGCACAAAATCGTCAAGGAAATCCATGAACAGCTGAAAGCCTTTTGGAG GGAGAAGGAGGAGGAGCTTGAAGTCAGCTTTGAGCCTCCCAAGTGGAAGGCTCCCAGGGTGCTGAGCTTCTCTCT GAAATCCAAAGTCCTCAACGAAAGTGTCAGCTTTGATGTGCTTCCTGCCTTTAATGCACTGGGTCAGCTGAGTTC TGGCTCCACACCCAGCCCCGAGGTTTATGCAGGGCTCATTGATCTGTATAAATCCTCGGACCTCCCGGGAGGAGA GTTTTCTACCTGTTTCACAGTCCTGCAGCGAAACTTCATTCGCTCCCGGCCCACCAAACTAAAGGATTTAATTCG CCTGGTGAAGCACTGGTACAAAGAGTGTGAAAGGAAACTGAAGCCAAAGGGGTCTTTGCCCCCAAAGTATGCCTT AGTCCTGGAGCTGGTCACACAATATCAGCAGCTCTGCATCTTCTGGAAGGTCAATTACAACTTTGAAGATGAGAC CGTGAGGAAGTTTCTACTGAGCCAGTTGCAGAAAACCAGGCCTGTGATCTTGGACCCAGCCGAACCCACAGGTGA  $\tt CGTGGGTGGAGGGGACCGTTGGTGTTGGCATCTTCTGGCAAAAGAAGCAAAGGAATGGTTATCCTCTCCCTGCTT$ CAAGGATGGGACTGGAAACCCAATACCACCTTGGAAAGTGCCGACAATGCAGACACCAGGAAGTTGTGGAGCTAG GATCCATCCTATTGTCAATGAGATGTTCTCATCCAGAAGCCATAGAATCCTGAATAATAATTCTAAAAGAAACTT AAGGAATCCTCTGTGTCTTCAAAGCAAAGCTCTTTACTTTCCCCTTGGTTCTCATAACTCTGTGATCTTGCTCTC GGTGCTTCCAACTCATCCACGTCCTGTCTGTTTCCTCTGTATACAAAACCCTTTCTGCCCCTGCTGACACAGACA TCCTCTATGCCAGCCAGCCAACCCTTTCATTAGAACTTCAAGCTCTCCAAAGGCTCAGATTATAACTGTTGT AAATCAAAAGACTTTTTCCTTGGGCTTTAGCCTTAAAGATACTTGAAGGTCTAGGTGCTTTAACCTCACATACCC TCACTTAAACTTTTATCACTGTTGCATATACCAGTTGTGATACAATAAAGAATGTATCTGG

AGTGAGAGGGTCCAAGCCTGGTAAGAATGTCCAGCTTCAGGAGAATGAAATCAGAGGACTGTGCTTAAAGTCTCG TGAAATCTTTCTCAGTCAGCCTATCCTACTAGAACTTGAAGCACCACTCAAAATATGTGGTGACATCCATGGACA ATACTATGATTTGCTGCGACTTTTTGAGTACGGTGGTTTTCCCACCAGAAAGCAACTACCTGTTTCTTGGGGACTA TGTGGACAGGGGAAAGCAGTCATTGGAGACGATCTGCCTCTTACTGGCCTACAAAATAAAATATCCTGAGAATTT TTTTCTTCTCAGAGGGAACCATGAATGTGCCAGCATCAACAGAATTTATGGATTTTATGATGAATGTAAAAGAAG ATACAACATTAAACTATGGAAAACTTTCACAGACTGTTTTAACTGTTTACCGATAGCAGCCATCGTGGATGAGAA GATATTCTGCTGTCATGGAGGTTTATCACCAGATCTTCAATCTATGGAGCAGATTCGGCGAATTATGCGACCAAC TGATGTACCAGATCAAGGTCTTCTTTGTGATCTTTTGTGGTCTGACCCCGATAAAGATGTCTTAGGCTGGGGTGA AAATGACAGAGGAGTGTCCTTCACATTTGGTGCAGAAGTGGTTGCAAAATTTCTCCATAAGCATGATTTGGATCT TATATGTAGAGCCCATCAGGTGGTTGAAGATGGATATGAATTTTTTGCAAAGAGCCAGTTGGTCACTCTGTTTTC TGCGCCCAATTATTGCGGAGAGTTTGACAATGCAGGTGCCATGATGAGTGTGGATGAAACACTAATGTGTTCTTT TCAGATTTTAAAGCCTGCAGAGAAAAAGAAGCCAAATGCCACGAGACCTGTAACGCCTCCAAGGGTTGCATCAGG CCTGAACCCGTCCATTCAGAAAGCTTCAAATTATAGAAACAATACTGTTCTATACGAG**TGA**CCGATTATGCTTTC CAGTTTATACAGAACTCACAGTACCTATGACTTTTTTAAACTAAGATCTGTTAAAAAAGAAATCTGTTTCAACAG ATGACCGTGTACAATACCGTGTGGTGAAAATGAATTCAGACTTATTAAATGAACTTGTT

 ${\tt MEQIRRIMRPTDVPDQGLLCDLLWSDPDKDVLGWGENDRGVSFTFGAEVVAKFLHKHDLDLICRAHQVVEDGYEFFAKRQLVTLFSAPNYCGEFDNAGAMMSVDETLMCSFQILKPAEKKKPNATRPVTPPRVASGLNPSIQKASNYRNNTVLYE$ 

TCCTCTAATTGGGACTCCGAGCCAGGGCTATTTCTCGCGCTGGCGCGGTTCCAAGAAGCATCCCAGCCATCACTC GAAAAGGAGGGCACTGAGAAGCGGGGCCGGGGCAGGCCGCGAAGCAGCCTCCGATGAGTCCTGGGACAGCGCTT AAGTAGGAAGAGGGCATCTCGCAAGAGTCCTCGGAGGAGGAGCAGTGAACCGTGCGGCCGCCTGCTCCA CTGGAGGAGCAGCTGCCTTCTGGGACTGGACAGCTTTGCTCCGCTCCCACCGCCCCTCCGCCCCTCCGCAGGCCCA ACGCATACACACATGCCCTCCTGGACAAGGCTAGCATCTCACTTAGCCGCACCTGCACCTGCTGCGTCCCCACT  ${\tt CCGTTGGTGGGGGACATTGCTCTCTGGGCTTTTGGTTTGGGGGGCGCCCTCTCTGCTTCACTGTTCCCTCTGGC}$  $\tt CTCCCATAGTGGGGCCTGGGGGTTCCCCTGGCCTTAAAAGGGGCCCCAAGCCCCATCTCATCCTGGCACGCCCT$ GTCTTTGTCACCACGTGGGGCTCACACTTTCATCCTTCCCCACCTTCCCTAGTCCCTGCACTAGGTTGGACAGC  $\tt CCCCTTCGGCTACAGGAAGGCAGGAGGGGGGGGGGGCCCCTACTCCCTCTTCACTGTGGCCGCAGCCCCCTTGCCCT$  ${\tt CCGCCTGGGATCGAGTACATATTGTGGTGATGGAGATGCAGTCACTTATTGTCCAGGTGAGGCCCACGAGCCCTG}$ TGTCCGCCGCCTGAGGTGGGCTGGGGCTGCTCCCCTAACCCTACTTTGCTTCCGCCACTCAGCCATTTCCCCCCTC CTCAGATGGGGCACCAATAGCAAGGAGCTCACCCTGCCCGCTCCCAACCCCGCTCCTGCTCTTCCCTGCCCCTCA TCTTCCACATCCGTCATTGCTGCTACCAGCGCCAAATATTCATCCTCACTGCCTCCTGTTCTGCCCACGATC CCCTCCGCAAGATACTCTTTGTAGGGAAGAGGGGCTGGGGCATGGCAGGCTGGGTGACCGCCTACCCCAGTCCC  ${\tt AGGGAAGGTGGGGCCCTGCCCCTAGGATGCTGCAGCAGGTGAGCAAGGGGTCCCGAATCAACCATAAAGGGCGT}$ AGGGGCCACCTCCCCCCTGTTCTGTTGGGGAGGGGTGACCATGATTTGTCCCAGCCTGGGGCTCCCCCTCTGG TTTCCTATTTGCAGTTACTTGAATAAAAAAAAATCCTTTTCTGG

MSESSSKSSQPLASKQEKDGTEKRGRGRPRKQPPVSPGTALVGSQKEPSEVPTPKRPRGRPKGSKNKGAAKTRKT TTTPGRKPRGRPKKLHRRRKRRASRRSPRRRSSDPCVPPAPHWRSSFLLGLDSFAPLPPPPPLPQAHHHHRLWP PPPSSTCALTTTLHSTPAAAGLPWAEWGAVFPWPQFPAPPAHPRIHTCPPGQG

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 ${\tt MSESSSKSSQPLASKQEKEGTEKRGRGRPRKQPPMSPGTALVGSQKEPSEVPTPKRPRGQPKGSKKNWRSRKRRASKRRSSEPCVPPAPHWRSSCLLGLDSFAPLPPPSPLPQAHHHHRLWPPPPSSTCAHTTTLRSTPATAGLPWAEWGAVFPWPQFPAPPAHPRIHTCPPGQG$ 

GATCCCTGAGCGTGTGGCAGCAGTGCGGTCGTGGTCCCTATGCAGCCTGGTTTCTAGCGTGACACGCCCTT GACTTGAGGACC<u>ATC</u>AACCGCAGCCGCCAGGTGACGTGCGTGGCCTGGGTCCGCTGCGGCGTGGCCAAAGAGACA CCAGACAAGGTAGAGCTGAGTAAAGAAGAAGTAAAACGCCTCATTGCTGAGGCAAAGGAGAAATTGCAAGAAGAA TTAGATAAATATGATGAGGAAGGTGACCCAGATGCTGAGACTCTTGGTGAATCTCTCTTGGGTCTTACGGTCTAC GGGAGTAATGATCAAGATCCTTACGTTACTCTGAAAGATACAGAACAATATGAACGTGAAGATTTCTTGATTAAG  ${\tt CCCAGTGATAATCTTATAGTTTGTGGCCGAGCTGAACAGGACCAGTGCAATTTAGAGGTGCATGTTTATAATCAA}$ GAAGAAGACTCTTTTTATGTACACCATGATATACTCTTGTCTGCATATCCTCTGAGTGTGGAATGGCTGAATTTT GATCCTAGCCCAGATGATTCTACTGGAAATTACATTGCTGTAGGAAACATGACCCCTGTTATTGAAGTGTGGGAC AAGAAGAGTTCCTCAGCAGAAGGGCATACCGATGCTGTCCTTGACCTTTCATGGAATAAGCTAATCAGAAATGTT TTAGCAAGTGCATCAGCTGACAACACTGTAATTCTGTGGGATATGTCCTTGGGGAAACCAGCAGCTAGCCTCGCT GTACACAGACAAGGTCCAAACACTGCAGTTTCATCCATTTGAAGCACAGACTCTGATTTCTGGCTCATATGAT AAGTCAGTGGCTTTGTATGACTGCCGAAGTCCAGATGAAAGCCATCGAATGTGGCGATTCAGTGGGCAGATAGAG AGAGTGACTTGGAATCACTTTTCACCTTGTCATTTCTTGGCCAGTACAGATGACGGCTTTGTATAATTTGGAT GCACGTTCAGATAAGCCAATTTTTACACTTAATGCACACAATGATGAAATCTCTGGTCTTGATCTTAGCAGTCAA  ${\tt ATCAAGGGCTGTCTCGTGACTGACAAATACGTGAAGATCTGGGACATCTTAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTTCAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGCCAAGTCTGAGGAGATAGGAGATAGGCCAAGTCTGAGGAGATAGATAGAGATAGATAGGAGATAGAGATAGATAGAGATAG$ GCCTTTGGAGGTCAAAAAGAAGGGCTTCGGGTCTGGGATATAAGCACAGTCTCTTCAGTAAATGAAGCATTTGGA  ${\tt AGACGAGAGGCTTGTTCTTGGGAGTGCAAGAAATTCATCTATTAGTGGCCCTTTTGGCAGCAGGAGCTCAGAT}$ TTTCTTAAAAAAGGGTAATAAAAAGGATTTTTAAAAAGTAATTCCTTAAACAT

MNRSRQVTCVAWVRCGVAKETPDKVELSKEEVKRLIAEAKEKLQEEGGGSDEEETGSPSEDGMQSARTQARPREP LEDGDPEDDRTLDDDELAEYDLDKYDEEGDPDAETLGESLLGLTVYGSNDQDPYVTLKDTEQYEREDFLIKPSDN LIVCGRAEQDQCNLEVHVYNQEEDSFYVHHDILLSAYPLSVEWLNFDPSPDDSTGNYIAVGNMTPVIEVWDLDIV DSLEPVFTLGSKLSKKKKKKKGKKSSSAEGHTDAVLDLSWNKLIRNVLASASADNTVILWDMSLGKPAASLAVHTD KVQTLQFHPFEAQTLISGSYDKSVALYDCRSPDESHRMWRFSGQIERVTWNHFSPCHFLASTDDGFVYNLDARSD KPIFTLNAHNDEISGLDLSSQIKGCLVTASADKYVKIWDILGDRPSLVHSRDMKMGVLFCSSCCPDLPFIYAFGG QKEGLRVWDISTVSSVNEAFGRRERLVLGSARNSSISGPFGSRSSDTPMES

GCGCCCGCCATGCCCTCGGCCAAACAAAGGGGCTCCAAGGGCGGCCACGGCGCGCGAGCCCCTCGGAGAAGGGT GCGTCCTGCTCGCGCAGGCTCGGCAGGCGCTCAACTTTCTCTTCTACCTCGCCCTGGTGGCGGCGGCCGCTTTC TCGGGCTGGTGCGTCCACCACGTCCTGGAGGAGGTCCAGCAGGTCCGGCGCAGCCACCAGGACTTCTCCCGGCAG AGGGAGGAGCTGGGCCAGGGCTTGCAGGGCGTCGAGCAGAAGGTGCAGTCTTTGCAAGCCACATTTGGAACTTTT GAGTCCATCTTGAGAAGCTCCCAACATAAACAAGACCTCACAGAGAAAGCTGTGAAGCAAGGGGAGAGTGAGGTC AGCCGGATCAGCGAAGTGCTGCAGAAACTCCAGAATGAGATTCTCAAAGACCTCTCGGATGGGATCCATGTGGTG AAGGACGCCCGGGAGCGGACTTCACGTCCCTGGAGAACACGGTGGAGGAGCGGCTGACGGAGCTCACCAAATCC ATCAACGACAACATCGCCATCTTCACAGAAGTCCAGAAGAGGAGCCAGAAGGAGATCAATGACATGAAGGCAAAG ACCTCAGCCAAGTCCAGAGAGTGGGACATGGAGGCCCTGAGAAGTACCCTTCAGACTATGGAGTCTGACATCTAC ACCGAGGTTCGCGAGCTGGTGAGCCTCAAGCAGGAGCAGCAGCCTTTCAAGGAGGCGGCCGACACGGAGCGGCTC GCCCTGCAGGCCCTCACGGAGAAGCTTCTCAGGTCTGAGGAGTCCGTCTCCCGCCTCCCGGAGGAGATCCGGAGA CTGGAGGAAGAGCTCCGCCAGCTGAAGTCCGATTCCCACGGGCCGAAGGAGGACGGAGGCTTCAGACACTCGGAA GCCTTTGAGGCACTCCAGCAAAAGAGTCAGGGACTGGACTCCAGGCTCCAGCACGTGGAGGATGGGGTGCTCTCC  $\verb|CTGGCCGCCTGCAGGGGCCCTGGAAGGCCTCGGGTCCTCAGAGGCAGACCAGGATGGCCTGGCCAGCACGGTG|\\$ AGGAGCCTGGGCGAGACCCAGCTGGTGCTCTACGGTGACGTGAGGAGGAGCTGAAGAGGAGTGTGGGCGAGCTCCCC GCGGACTTGAAAATGCTCAGGACTGCTGTGGACAGTTTGGTTGCATACTCGGTCAAAATAGAAACCAACGAGAAC TGTGGTTTTTTCCCATGTGTCCCCTACCCCCCAATTTCTTGTCCCCTCTTAAAGAGCAGTTGTCACCACCTGAAC TTCCTGAAGCGCAGCCCCTGTGAATAACAGGTGGCTTTTCATGGATGTCTCTAGTCAGAGAAAAATGATAAAGGC GGCCGAAATTTTTATGAGATATCTCTCACTTGTCTTCCACTTTGAACCGGTTAAAGCTCATAGCTGTCAGCTCTG GCGTGTCGTTCTCCTGACGCATCTGTGATATCAGAGGTAACTATGCAAAGCATCCAGGCGGTTCTGAATGTG  ${\tt AAGCACTACACCCAGCAGAGTCCCGGTGCCCTCTGTCCCCACTGCCGGCCCATGTCCTCTCTCCGGAGGTCACCA}$ AGGAATGCACAGGTTTCGACTACCAGAAAGGGGAGTCCTTGGGTTCTTTCAAAAAATTCGTGAGGAGAGCTGTCT ACAGTGGAATAGGGGGTCTCCCTGGGGAATGCAGGCCAAGTCCTTTTATTTTAACATGATGTCCATGAAGAGGTT TGCCGTCTGGGCAGCCCTGTCGGCAAGGAGCGTGCATACTGCGTTTGTGTAATTGTTTGCTGTATCTCCCTTCCC 

MPSAKQRGSKGGHGAASPSEKGAHPSGGADDVAKKPPPAPQQPPPPPAPHPQQHPQQHPQNQAHGKGGHRGGGGGGGKSSSSSSASAAAAAAAASSSASCSRRLGRALNFLFYLALVAAAAFSGWCVHHVLEEVQQVRRSHQDFSRQREE LGQGLQGVEQKVQSLQATFGTFESILRSSQHKQDLTEKAVKQGESEVSRISEVLQKLQNEILKDLSDGIHVVKDA RERDFTSLENTVEERLTELTKSINDNIAIFTEVQKRSQKEINDMKAKVASLEESEGNKQDLKALKEAVKEIQTSA KSREWDMEALRSTLQTMESDIYTEVRELVSLKQEQQAFKEAADTERLALQALTEKLLRSEESVSRLPEEIRRLEE ELRQLKSDSHGPKEDGGFRHSEAFEALQQKSQGLDSRLQHVEDGVLSMQVASARQTESLESLLSKSQEHEQRLAA LQGRLEGLGSSEADQDGLASTVRSLGETQLVLYGDVEELKRSVGELPSTVESLQKVQEQVHTLLSQDQAQAARLP PQDFLDRLSSLDNLKASVSQVEADLKMLRTAVDSLVAYSVKIETNENNLESAKGLLDDLRNDLDRLFVKVEKIHE KV

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## FIGURE 3810

GGCACGAGGCTCTGTCACCTGGGCTGGAGTCCAGTGGCGTGATCATAGCTCACTGTAGCCTCCAACCCCTGGGCT CAAGTGATCCTCCCCACTCAGCCTACCCAAGCAGCTGGAACTACAGGAGTGGTATGAGGAGCATGCCAGGGAGCA GACCGTTACCTAGCCCAGCGCCCGAAAGCCGTCTCTTCTATGCAATAACACAATAGTATTACTCTACTGCGATGT ATGGGGCTTGGTTTATAACCACCTTGCCCTGTCTTCCTTAACTCCAGAAGCCAGTTTGGTGAGGGGTGGGGGTGC GGCCACCAGGTCTGAGCTCTTCCTACTGTGGAAGGCTCCAGAAGGCCCTTCACAAGGAGACCCCTCACCTGGATC CAGTCGACTGCGGGGCTTGCCCCTCATGTGGGCTGGCCTCCATCGGCCACGTCCAAAGCTGTCACTGCT TCAGGCTCACATCCCCCGACCTGATGGCGTGCCCGCCCCCTCTCCCTGCGGCCCATGCCACAGGTTTCTGTGTT TTGCTTTAGGGACAGAACCACTTAGGAAGGAAAGAACTCCCGGTCTCCAGGGTGGTATTTCAGTGTCTGATAA TGTCACGCAACACCTCTTCGGGGACCAGTGCCCAGGATCTAATGGAAGCGGAATTGGGGCCAACTGGGCCCATGTG  ${\tt GCCAGAGCTCAGTTAGCCAGTGCCGGGCGGCCACAGATTACACTGACCAATCTCCCTTGGCTCTGCAAGCCTCCCTTGGCTGCAAGCCTCGCAGGCCTCGCAGGCCTCGCAGGCCTGCAGGCCTGCAGGCCTGCAGGCCTGCAGGCCTGCAGGCCTGGCAGGCCTGGCAGGCCTGGCAGGCCTGCAGGCCTGGCCAGGCCCTGGCCAGGCCTGGCCAGGCCTGGCCAGGCCTGGCCAGGCCTGGCCAGGCCTGGCCAGGCCTGGCCAGGCCAGGCCTGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCAGGCCAGGCCAGGCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCCAGGCCAGGCCAGGCCAGGCCA$ TACCAGGTCCTTCACACGTGTGCACTAGGAACAGGAGCGAACAGCACAGAGAGACGCTCCCTGTGGGACGCAGCA GCCCGTGGCCCGGCCCAGTTCCCAGCCACCCTCCCTGGCTCTGCTCACACCAGAGATTTCCATAGCAGGAGCG GTTGGTGCAGAAGTAGGTTCAGATGAACCTCAGTTAACGTCGCCACCCTCCTCCCACCATGGTACCCTGTAGGA  ${ t GCCCTGT}$ AGTGCAGAGGTCGCTTTGGTTCCGCTTCCCTGGGCCACAGAACGGAACACAGCATAGGTTCTGCAGCAGGAGCCG CAGTGGCAGGATGGAGGGTGCGAAGGAGTGCACTGCTGGGCATTCCTGGCCAGCCCCGGCCCTCTGGTG GGCAGGGTGGCACCCGACCCCAGGGGAGCAGTACCTGGTCCCCCACCCCTCCTCCCAACCACCTCCAAGGCCAA GGTGTTTGTTTTTAAAGCACAGCCCTTTGGGAAAGCAACACATTATTGAGACTCACTGTGATTCCCCCGGGAGTC AGACTGGCTTTGTCCTCTCTCTGGAGGGCCATGGGCCATCAGCAGGAGCTCCACATCGAGCCCCAGGCCAG AACCCCTCCCTTTCACAGAGGGGAACTTTATTGCACAATTGGGTGCCTTTTAGCTTTTGTGTGTTGAAATGGG CGTTTTGGAAGCAAGGGTCAGGGGACAGCTTCTAAAGGTGTGAGTCTCTGACCTGAGCATCTGGGCCTCGCCTGG GCCCTTCTTCCTCCCCAGGGGTGGAAACGTGGAGGGGCCCAGCAGCACCCCCGGGGTCTGCCCAGGGGAGTCAAGGC CCCGAGGTGGGGGGCCTATTCCAGGAGGAGTGGGATCTCGGCCCTGTCCAGAGCGAGTTAATGTGTCCATCTGC GGGAGTCCAGCCAGGGTGGGTGCCCTTGTCATTGAGGTTAGGGACAGCTATCCCCAGGTTATGCCTGGCCCCACC  ${\tt CAGCAGGGAGTTGGGGTCCCCCCACAGGCTGTGAGCTCTGTGGGCCCTGGGATGTGATCTAGCTCAGATGCCCTC}$ TCATCCTTGATGTCATAGTTGAGTGCACCCAAGTGGCACCCACTGGCGGCCAGGGGCACAGCCTGGTGGTGGTGG CAATAGAACTGTGCCCCTCCTCAGCTCCTCGCTTCCCCACAGCCCCAGCCTTACTCCACCATGCGGACAAT  ${\tt CATTTGTACGGATCACGGGAGCAATGCTGTACGGTTTTGTACACTGGTGGTTTTTTCCTAGAAAACCCATTGT}$ 

 ${\tt MTSERGGGRRVASCSDPATEAGSVQRSLWFRFPGPQNGTQHRFCSRSRSGRMEGAKGKECTAGHSWPAPALWCLL}\\ {\tt PVTSEGRWTEPPSGLVLFPATERAGWHPTPGEQYLVPHPLLPTTSKAKLGPIASTAWFSPSPLPRSGELDK}\\ {\tt PVTSEGRWTEPPSGLVLFPATERAGWHPTPGEQYLVPHPLTPTSKAKLGPIASTAWFSPSPLPRSGELDK}\\ {\tt PVTSEGRWTEPPSGLVLFPATERAGWHPTPGEQYLVPHPTPGEQYLVPHPLTPTSKAKLGPIASTAWFSPSPLPRSGELDK}\\ {\tt PVTSEGRWTEPPSGLVLFPATERAGWHPTPGEQYLVPHPTPGGUNDTPGUNDTPGUNDTPGUNDTPGUNDTPGUNDTPGUNDTPGUNDTPGUNDTPGUNDTPG$ 

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#### 4134/6881 FIGURE 3812

GATGCGGCTGTGATTGCTGAATTGTCTGGGCAGGTTTGGAGTCTCTGGCAAGCTCCCCTGACTGTGCATCCCTCT GGAGACGAAGAGGGGGGGGGGGCCTGTCCTCTGGGATCCATTGGTCACATCCCCCTGAGGATTCCCGAATGCC TACCTCCAGTGTCGTCAACATGGAGTTCTGAAGTCCATGTGGCTCTTCACAGTGAATCAGGTGTTAAGGAAGATG GGGGGCCATTGAACTTGAAGACTGCAGAGCCAGCGGTCCTTGGGATCCCGAGAAACCGCAGCCAGGCGCTCAGCT CGGGCTTATCAGGCAGCCTCCCCACCAGCTCGTTCCCCTCCAGCCTGGTGCTGGGCTCCTCGGCTGGCGGGGG GCTGGCTCCAGAAAGGACTCCCCTTCATCCTGATCCTCGCCAAACTGTGCTTTCAGCATAAGCTCGGCATTG CTGTGTGCATCGGGATGGCCAGCACCTTCGCCTATGCCAACTCCACGCTTCGAGAACAGGTCTCACTGAAGGAGA AGAGGTCAGTGCTGGTCATCTTGTGGATCCTGGCCTTTCTGGCGGGGAACACCCTCTATGTGCTTTATACATTCA GCTCCCAGCAGCTGTACAACAGCCTCATATTCCTGAAGCCCAACCTGGAGATGCTGGACTTCTTTGACCTGCTAT AGATCATCCTGGCCGTCAAGTCCAAGGGAAAGTTCTATCTGGTCATCGAGGAGCTGAGCCAGCTGTTCCGATCCC TTGTCCCCATCCAGCTGTGGTACAAATACATCATGGGTGACGACTCCTCCAACAGCTACTTCCTGGGCGGGGTCC TCTGTCAGGCCGAGTTCCGAGAGCCTCTGATTCTCCTGTGCCAGATGCTGTTGAAGGGGCACAAGAAATTGGAGC  ${\tt TGGAGAAGATTGATGAAAGTGCAGGTGTG}{\tt TAA}{\tt GGAAATAGAACAGTCTGCTGGGAGTCAGACCTGGAATTCTGAT}$ TCCAAACTCTTTATTACTTTGGGAAGTCACTCAGCCTCCCCGTAGCCATCTCCAGGGTGACGGAACCCAGTGTAT TACCTGCTGGAACCAAGGAAACTAACAATGTAGGTTACTAGTGAATACCCCAATGGTTTCTCCAATTATGCCCAT GCCACCAAAACAATAAAACAAAATTCTCTAACACTGAT

MPASREEGGGRGEGGAYHHRQPHHFFHHGGHRGGSLLQHVGGDHRGHSEEGGDEQPGTPAPALSELKAVICWLQK GLPFILILLAKLCFQHKLGIAVCIGMASTFAYANSTLREQVSLKEKRSVLVILWILAFLAGNTLYVLYTFSSQQL YNSLIFLKPNLEMLDFFDLLWIVGIADFVLKYITIALKCLIVALPKIILAVKSKGKFYLVIEELSQLFRSLVPIQ LWYKYIMGDDSSNSYFLGGVLIVLYSLCKSFDICGRVGGVRKALKLLCTSQNYGVRATGQQCTEAGDICAICQAE FREPLILLCQMLLKGHKKLELEKIDESAGV

MRTQRERGEAPDICSLGLLENMELFLWPCICEIYKKGDIVDIKGMGTVQKGMPRKCYHGKTGRVYNVTQHAVGIV VNKQVKGKILAERINVHIEHIKHSESRDSFLKCMKENDQKKKEAEEKGTWVQLKRQPAPPREAHFVRANGKEPEL LEPIPCEFMA

GGGGGGTCTGCGTCTTCCCGAGCCAGTGTGCTGAGCTCTCCGCGTCGCCTCTGTCGCCCGCGCCCTGGCCTACCGC  ${\tt GGCACTCCCGGCTGCACGCTCTGCCTTGGCCTCGCC} \underline{{\tt ATC}} {\tt CCGGTGGACCTCAGCAAGTGGTCCGGGCCCTTGAGCC}$ TGCAAGAAGTGGACGAGCAGCCGCAGCACCCGCTGCATGTCACCTACGCCGGGGCGGCGGTGGACGAGCTGGGCA  ${\tt AAGTGCTGACGCCCACCCAGGTTAAGAATAGACCCACCAGCATTTCGTGGGATGGTCTTGATTCAGGGAAGCTCT}$ TGGTCAACATGAAGGGCAATGACATCAGCAGTGGCACAGTCCTCTCCGATTATGTGGGCTCGGGGCCTCCCAAGG GCACAGGCCTCCACCGCTATGTCTGGCTGGTTTACGAGCAGGACAGGCCGCTAAAGTGTGACGAGCCCATCCTCA GCAACCGATCTGGAGACCACCGTGGCAAATTCAAGGTGGCGTCCTTCCGTAAAAAGTATGAGCTCAGGGCCCCGG  ${\tt TGGCTGGCACGTGTTACCAGGCCGAGTGGGATGACTATGTGCCCAAACTGTACGAGCAGCTGTCTGGGAAG{\color{red}{\bf TAG}G}{\bf TAG}G{\color{red}{\bf TAG}G}{\bf TAG}G{\bf$ GGGTTAGCTTGGGGACCTGAACTGTCCTGGAGGCCCCAAGCCATGTTCCCCAGTTCAGTGTTGCATGTATAATAG ATTTCTCCTCTTCCTGCCCCCCTTGGCATGGGTGAGACCTGACCAGTCAGATGGTAGTTGAGGGTGACTTTTCCT GCTGCCTGGCCTTTATAATTTTACTCACTCACTCTGATTTATGTTTTGATCAAATTTGAACTTCATTTTGGGGGG AAAAAAAAAAAAAGATTGGTTGCCTCTGCCTTTGTGATCCTGAGTCCAGAATGGTACACAATGTGATTTTATGGTGAT GGGACATGGCAATCTAGACCGGTAGCAGCGCCTCGCTGACAGCTTGGGAGGAAACCTGAGATCTGTGTTTTTTAA ATTGATCGTTCTTCATGGGGGTAAGAAAAGCTGGTCTGGAGTTGCTGAATGTTGCATTAATTGTGCTGTTTGCTT GTAGTTGAATAAAAACCCG

 ${\tt MPVDLSKWSGPLSLQEVDEQPQHPLHVTYAGAAVDELGKVLTPTQVKNRPTSISWDGLDSGKLYTLVLTDPDAPS} \\ RKDPKYREWHHFLVVNMKGNDISSGTVLSDYVGSGPPKGTGLHRYVWLVYEQDRPLKCDEPILSNRSGDHRGKFK \\ VASFRKKYELRAPVAGTCYQAEWDDYVPKLYEQLSGK$ 

CGGGAGCGGGGACCCGAGCCTGCAGCCCGAGCTCCGCTGCCGGCCTGGACACTCGGCTCAGCCAAGCATCCTTCC TGGGGGCCGAGGAAGTGGGGCCACTCTGCCGTTCCGAGGACCTGGGAGGAGCCCTCGGTACCCCGGGCCCCGGGG CGGCAGTGCGCCCGAGCCCCGCGTCCTCGTCTGCCTCGGGGGCGCTCCTGGCCGGGTCGCCGTAGCCCAAGG TTCAAAGCGGGGTCTTCCGCCTTTACTTTTGGAAAAGCTTTTTATTTTGAAATACTTGGCTGACTTACAAAAGAC TTCCCCTCACACTTGACATGATTGACAAAAGGTCTGAAATGCTTCATCTATGGTCTGCTTTGCTACGAAAAAAGA CACCCAACGGGTCTCCTCTTGCACGTTTCTGGAGATGGGTTGTAAAGTATGCTGGAGCTTCTTAGCAGCAAGTGC ACATCTCTAGATTTCCAGTTTATCTGGAAAAATCTGAAGGTCTGGCAACACGGGGCCTGCTTTCCCAGTTGGAAT TGGGCAGTGGTCATCCTCTTATCTAGGGCATATGAGCCCAAATTTGTTCCACCTCTCCCTGTTGTAATATTTGCC CCGCCACCTTCAGTCATGGGTGTTACCTGCTGGCCCTGCAGGCATTTGGCTGAGTAATCACTGTGCTGGGGTGTG GGTGATGGGGGGGGGCACAGTTCCTAGTTGGTCATCTCTGGACGTGAAAGGTGGTTGTCAAGTATTCCCATCTCCCC AGCTGTTTGCAGTGTTTCCTGCACGATGAACACCAGGAACCTGGGAAGTGAGAAGCCCTGGGATGAAGTCATC CTGCTGGAATGACCTGGCTTTCAGGCTGACTGCCACCCGCCCCATGGGGAACCTATCTCCACTGCTATGGCCAGC TATTTTTTCGAGCCAGGCTCTCGCTCTGTTGCCCAGGCTGGAGTGCAGTGCTGCAATCACTGCACTGATCCTCC CACCTCAGCCTACAAGTAGCTGGGACTACAGGCGTGCACCACCACCCCTAGCTAATTTCTAAAATTTTTTGTAG AGACGGTCTCTACAATCGCTTGAGCCCAGGCTGGTCTTAAACTCCTGGACCCAAGCGATCCTCCTGTCTCGGCCT  ${\tt CCCAAAGTGTTGGGATTATGGGTGTGAGCCACCGTGTTGGGCCTTTGCCCAGCTATTTTGATGCCCAGACCTGCT}$ TCACCTTTGTGTATGATGCCAGGGGGCTTCCTGAGCTTGGTGTATTTTTGTTGTTGTTTTTTTAAGTTGGG AGTTTTTGGGGAAAAAAATTTTTCTCCTGACATTCAATGCCAGACAACTTATATGCATCCACTAGCTACCCCGGA 

MAAGGSAPEPRVLVCLGALLAGWVAVAQG

 $\label{thm:condition} $$ \mathbf{M}_{\mathbf{A}} = \mathbf{M}_{\mathbf{A}} \mathbf$ 

CGACTCGTCGCCATTCCCGGAGCAGGTCGGCCTCGGCCCAGGGGCGAGTATCCGTTGCTGTGTGGGAGACACTAG GCTCGCGCAACCTCCCTCGCCTCCCCTTCCCCCGCAGCCTCCGCCCAGGCCCGGCCCGGACTCCCGAGCCC CGGCCTCCTCGTCCTCGGTCGCCGCTGCCGCCGGGCTTAACAGCCCCGTCCGCCGCTTCTCTTCCTAGTTTGAGA TGAACGCCATGAGCCTGGGTCCCCGCCGCCCCGCTCCGCTCCGACTGCCGTCGCCGCCGAGGCCCCCGTTGATG CCGCTGAGCTCCCCAACGCCGCCGCCACCGCCTCCGACATGGACAAGAACAGCGGCTCCAACAGCTCCTCCGCC TCTTCGGGCAGCAGCAAAGGGCAACAGCCGCCCCGCTCCGCCTCGGCGGGGCCAGCCGGCGAGTCTAAACCCAAG AGCGAATTACTAATTTCAGCTGGATTCAATTTGTTGTCAGTTGATTCTGTAGTAAGGCCATATGTTGCCCCTCTG GAGGTGCTTGTCAACTACTCTGGATGATGGAAGAACTCCAGTGGATCCAAGCGTTATAATCGCAAACGTG AACTTTCCTACCCCAAAAATGAAAGTTTTAACAACCAGTCCCGTCGCTCCAGTTCACAGAAAAGCAAGACTTTTA ACAAGATGCCTCCTCAAAGGGGCGGCGGCAGCAAACTCTTTAGCTCTTCTTTTAATGGTGGAAGACGAGATG AGGTAGCAGAGGCTCAACGGGCAGAGTTTAGCCCTGCCCAGTTCTCTGGTCCTAAGAAGATCAACCTGAACCACT TGTTGAATTTCACTTTTGAACCCCGTGGCCAGACGGGTCACTTTGAAGGCAGTGGACATGGTAGCTGGGGAAAGA GGAACAAGTGGGGACATAAGCCTTTTAACAAGGAACTCTTTTTACAGGCCAACTGCCAATTTGTGGTGTCTGAAG ACCAAGACTACACGCTCATTTTGCTGATCCTGATACATTAGTTAACTGGGACTTTGTGGAACAAGTGCGCATTT GTAGCCATGAAGTGCCATCTTGCCCAATATGCCTCTATCCACCTACTGCAGCCAAGATAACCCGTTGTGGACACA GTTCTGTGCATAAGAAGGATCTCAAGAGTGTTGTTGCCACAGAGTCACATCAGTATGTTGTTGGTGATACCATTA CGATGCAGCTGATGAAGAGGGAGAAAGGGGTGTTGGTGGCTTTGCCCAAATCCAAATGGATGAATGTAGACCATC CCATTCATCTAGGAGATGAACAGCACAGCCAGTACTCCAAGTTGCTGCTGCCTCTAAGGAGCAGGTGCTGCACC GGGTAGTTCTGGAGGAGAAAGTAGCACTAGAGCAGCAGCTGGCAGAGGAGAAGCACACTCCCGAGTCCTGCTTTA TTGAGGCAGCTATCCAGGAGCTCAAGACTCGGGAAGAGGCTCTGTCGGGATTGGCCGGAAGCAGAAGGGAGGTCA CTGGTGTTGTGGCTGCTCTGGAACAACTGGTGCTGATGGCTCCCTTGGCGAAGGAGTCTGTTTTTCAACCCAGGA AGGGTGTGCTGGAGTATCTGCCTTCGATGAAGAAACCACGGAAGTTTGTTCTCTGGACACTCCTTCTAGAC CTCTTGCTCTCCCTCTGGTAGAAGAGGAGGAGCAGTGTCTGAACCAGAGCCTGAGGGGTTGCCAGAGGCCTGTG CCAAGTCAGGCTTCACACGCCTCAGCAGCTCTCCTTGTTACTACTTTTACCAAGCGGAAGATGGACAGCATATGT  ${\tt TCCTGCACCCTGTGAATGTGCGCTGCCTGCGGGGAGTACGGCAGCCTGGAGAGGAGCCCCGAGAAGATCTCAG}$ CACTCACCTGTGAGTTCAGCATCTGTGAACTGGCTTTGCAACCTCCTGTGGTCTCTAAGGAAACCCTAGAGATGT TCTCAGATGACATTGAGAAGAGGAAACGTCAGCGCCAAAAGAAGACGCTCGGGAGGAACGCCGCCGAGAGCGCAGGA TTGAGATAGAGGAGAACAAGAAACAGGGCAAGTACCCAGAAGTCCACATTCCCCTCGAGAATCTACAGCAGTTTC CTGCCTTCAATTCTTATACCTGCTCCTCTGATTCTGCTTTGGGTCCCACCAGCACCGAGGGCCATGGGGCCCTCT CCATTTCTCCTCTCAGCAGAAGTCCAGGTTCCCATGCAGACTTTCTGCTGACCCCTCTGTCACCCACTGCCAGTC AGGGCAGTCCCTCATTCTGCGTTGGGAGTCTGGAAGAAGACTCTCCCTTCCCTTTCCTTTGCCCAGATGCTGAGGG CTGTGGACAGCGACGGGGAGAGTGATAATTCAGACCGTGTTCCTGTGCCCAGTTTTCAAAATTCCTTCAGCCAAG CTATTGAAGCAGCCTTCATGAAACTGGACACCAGCTACTTCAGATCCCCTCTCTGAAGAAGAAAGGAGAAAAGA AAAGAAAAAACAGAAACAGAAGCTCCTGTTCAGCACCTCAGTCGTCCACACCAAG<u>TGA</u>CACTACTGGCCCAGGC TACCTTCTCCATCTGGTTTTTGTTTTTTTTTTTTCCCCCATGCTTTTGTTTTGCTGCTGCTAATTTTTAAGTA TTTGAGTTTGAACAGATTAGCTCTGGGGGGGGGGGGTTTCCACAATGTGAGGGGGAACCAAGAAAATTTTAAATA CAGTGTATTTTCCAGCTTCCTGTCTTTACACCAAAATAAAGTATTGACACAAGAG

MMDGKNSSGSKRYNRKRELSYPKNESFNNQSRRSSSQKSKTFNKMPPQRGGGSSKLFSSSFNGGRRDEVAEAQRA
EFSPAQFSGPKKINLNHLLNFTFEPRGQTGHFEGSGHGSWGKRNKWGHKPFNKELFLQANCQFVVSEDQDYTAHF
ADPDTLVNWDFVEQVRICSHEVPSCPICLYPPTAAKITRCGHIFCWACILHYLSLSEKTWSKCPICYSSVHKKDL
KSVVATESHQYVVGDTITMQLMKREKGVLVALPKSKWMNVDHPIHLGDEQHSQYSKLLLASKEQVLHRVVLEEKV
ALEQQLAEEKHTPESCFIEAAIQELKTREEALSGLAGSRREVTGVVAALEQLVLMAPLAKESVFQPRKGVLEYLS
AFDEETTEVCSLDTPSRPLALPLVEEEEAVSEPEPEGLPEACDDLELADDNLKEGTICTESSQQEPITKSGFTRL
SSSPCYYFYQAEDGQHMFLHPVNVRCLVREYGSLERSPEKISATVVEIAGYSMSEDVRQRHRYLSHLPLTCEFSI
CELALQPPVVSKETLEMFSDDIEKRKRQRQKKAREERRRERRIEIEENKKQGKYPEVHIPLENLQQFPAFNSYTC
SSDSALGPTSTEGHGALSISPLSRSPGSHADFLLTPLSPTASQGSPSFCVGSLEEDSPFPSFAQMLRVGKAKADV
WPKTAPKKDENSLVPPAPVDSDGESDNSDRVPVPSFQNSFSQAIEAAFMKLDTPATSDPLSEEKGGKKRKKQKQK

GCCATGAACAGTGTGGGGGAGGCATGCACGGACATGAAGCGCGAGTACGACCAGTGCTTCAATCGCTGGTTCGCC GAGAAATTTCTCAAGGGGGACAGCTCCGGGGACCCGTGCACCGACCTCTTCAAGCGCTACCAGCAGTGTTCTAG AAAGCAATAAAGGAGAAAGAGATTCCTATTGAAGGACTGGAGTTCATGGGCCATGGCAAAGAAAAGCCTGAAAAT TCTTCTTGACCTTGACAGTCACCTTGAAGGATTTCGCAAGTCCAGAAATTGAGGACTCTGGATTTTTGTCAACTA ACTCTGTGAACATAGCCATCAGATTTGATGAGGAACTTAGGAGAGGAGTTTTATTTCCTCCTTCGATGTTTTC CTCTCAGTTGTAAAAGATGAACTCTTTGAGATGATTTCTCACCTGCTGTGGTATCTTGCAGGAACTGTGTGCTAA AATTGAACAATTTTTTTGAGATTATGGTTGCAATACTTGGCGTGGAATCAGCTTTACATAAATATACCTTGTATG CAAACGATGATAAACTAGTCAGGATGAGCAGAGCTGCCTGACCTCTTGATTTCTGCTGCAAAAGACATATACACT GTACTGGGGTCACTATTTATGAAAGCAATTGGTTAGGACCTCTTTTTTTCCTCTCAGGGAACTAATGCTCTGAAA AGGGATCTGGGCACAACAGTTTCAGTGAGTGCTTTTGAGCACACTTTTATTTTTATATAGTAACTAATGGTTAAG ATTGATGGTGGCCTGGATTAGCAAAGAGGAAGACAGCTTTTAACACAGTTCCCTGCCTTCACAAGAGGTGTCAGA  ${\tt TTAAGATGTGAAAGCTGCAAGAATGTTGCAGTGAACACCATTTCAGAGCTCTCAGTGTGCAGTTCAGGAATTAAG}$ ATACTTGGAATAGCTGTGGAGGAAGAACCTAAATTGCAAAGATCTGCTATTGCCAGCTCTCAACCCAAGTCAGTG AATTGTCAACCTGCATATCCTAAAAATGTCAAAATGCTGCATCTGGTTAAATGTCGGGGTAGGGGGGAAGCTGAA GGTGCTCGCTTCATTTGCCTTGTTTACTCATCCTGCCCTGTAATGTCTGTAATCCTGAAGATGGAATAAATTGTA ACATTTAGTTTCTATCATT

### FIGURE 3826A

GGCATGGATGGTAGAGAGGGGAGCTGGCACTTGAACTCAGGTCTGGCTCGACCTCAGAATGAGTGATCTTGTGTC TCTGTGCCCCAGGACTGCATCCTCTCACCAATACTTCACCAGCCTAGGGATCTGTGCTCCCAAGAGCCTGTTGAC ATTGTAAACCTGAATCCAATCCATAAACCAAAAGCCCAGGCTTAGAATCACATTGTGGTGGAGCGGGTGTTTGGT GGAGTCCCTGATTCAAAATGTTTGACAAGGAAGCCTGACCATTTGTCTTCTGTTGGGTGTTTGGAGTCCAAGAGA GTTATACCATCTGTGCTGGTGGCGTTGTGAGGATGGCAGGTAACAAAGACGCCCTGCTGGCGGACTTGGAGTCTA CCACCTCCCACATCTCCAAACGGCCTGTGTTCTTGTCGGAGGAGACCCCCTACTCATACCCAACTGGAAACCACA ACCCCTTAGACCAGTGGCAGCCCAGCAGCTCCCGATTCATCCACCAGCAGCCTCAGTCCTCATCACCTGTGTACG GCTCCAGTGCCAAAACTTCCAGTGTCTCCAACCCTCAGGACAGTGTTGGCTCTCCGTGCTCCCGAGTGGGTGAGG GCAGCAACCTTTCTGAACTCGACCGCCTGCTGCTGGAACTGAACGCTGTACAGCATAACCCGCCAGGCTTCCCTG CAGATGAGGCCAACTCAAGCCCCCGCTTCCTGGGGCCCTGAGCCCCCTCTATGGTGTCCCAGAGACTAACAGCC CCTTGGGAGGCAAAGCTGGGCCCCTGACGAAAGAGAAGCCTAAGCGGAATGGGGGCCGGGGCCTGGAGGACGTGC GGCCCAGTGTGGAGAGTCTCTTGGATGAACTGGAGAGCTCCGTGCCCAGCCCCGTCCCTGCCATCACTGTGAACC AGGGCGAGATGAGCAGCCCGCAGCGCGTCACCTCCACCCAACAGCAGACACGCATCTCGGCCTCCTCTGCCACCA GGGAGCTGGACGAGCTGATGGCTTCGCTGTCGGATTTCAAGGGCTCCTGGCCCCTGGAGGAGGTTGTACTTCTTG TCTCCATCAGCTCATCTGTCCAGGAGGGAGAAAAGTACCCCCATCCCTGTGCTGCCAGACACCGTACCCCGAGCC TCAGGAGTCCTGACCAGCCCCCTCCGTGTCCACAGTTCATGGCCCAGGGGAAGACAGGGAAGCAGCTCACCCCTG GGGGGCCCCCGAAGCCCGGGAGCCAGCTGGACAGCATGCTGGGGGAGCCTGCAGTCTGACCTGAACAAGCTGGGGG TCGCCACAGTCGCCAAAGGAGTCTGCGGGGCCTGCAAGAAGCCCATCGCCGGGCAGGTTGTGACCGCCATGGGGA AGACGTGGCACCCCGAGCACTTCGTCTGCACCCACTGCCAGGAGGAGATCGGATCCCGGAACTTCTTCGAGCGGG ATGGACAGCCCTACTGTGAAAAGGACTACCACAACCTCTTCTCCCCGCGCTGCTACTACTGCAACGGCCCCATCC TGGATAAAGTGGTGACAGCCCTTGACCGGACGTGGCACCCTGAACACTTCTTCTGTGCACAGTGTGGAGCCTTCT  $\tt TTGGTCCCGAAGGGTTCCACGAGAAGGACGGCAAGGCCTACTGTCGCAAGGACTACTTCGACATGTTCGCACCCA$ AGTGTGGCGGCTGCGCCCGGGCCATCCTGGAGAACTATATCTCAGCCCTCAACACGCTGTGGCATCCTGAGTGCT TTGTGTGCCGGGAATGCTTCACGCCATTCGTGAACGGCAGCTTCTTCGAGCACGACGGCAGCCCTACTGTGAGG TGCACTACCACGAGCGGCGCGCTCGCTGTGTTCTGGCTGCCAGAAGCCCATCACCGGCCGCTGCATCACCGCCA TGGCCAAGAAGTTCCACCCGAGCACTTCGTCTGTGCCTTCTGCCTCAAGCAGCTCAACAAGGGCACCTTCAAGG AGCAGAACGACAAGCCTTACTGTCAGAACTGCTTCCTCAAGCTCTTCTGCTAGGTGCCCTGCCCCTGTCTCTGCC CCCCTTCCCCAGCCAGCATCCCCAACTGCGACTGTGACCTAGAGACTTCACCCGGGGGTGAAGGGGTAAACCCGA CTGAAACTGGAACCCTTGTCCTCCGCTGGTGCGGGATGGACAGAGGGCCGTGAGGGGTCCCCCTGCTTGTCTTCA  $\verb|ccctgccagagcctctgggcccctctcctgtagctctcctaggctgcccactctcctatcctcccag$ GGGTAGAGGCTGGGGGCTCCACCCCAGCCCATGTACGTCCCCACGAACTGGCCTGGCCAGCACCCCACACTGGAG GCCAGCATAAATCCATCCAAAGGCAGAGAACCAAAGGGGCCATGGAAGGTTCTCTGTGCTCCTACCCT TGAGAAAAGCCTCTCCAGCAATAATGTTTTCTAGTCACTTCCTCCGTCTCCGGGACGGCGTGCCTGGACACTGTA CCGACTTTGATAGATTCTACACTGAGGTTTGAATTCATATCGCCTGAGTTGCTTTTACTTCTCTATACAAAATG ATTTTGAAGAGATTTTAAAGACGTTCCCTTTTGTATTCTCTTCCTCATCCACCGCCACTGGGCCTGTCACTGATG ACAAGCAGGTGAACTGGGAGCAGCTCTGTGACTCCCCCTCTTTCACTTCATAGCTCACCAGGACTGTTTTATAAA CTGCTGTATTTGGAAACCCCTTCTTTACTTCCCAGGCCAGCAAGCTCTTCACTGAAACTGGTTGAAGGGTGTTGC ACCCTTTTGGGCCTAGAATTCTGAACTTTATCTGTTCTGTTTCTGTGGGAGGAGGAAGGGGAAGTATGTTTTGGGG GGCTGCTTCCTGTCTGAGTAAGCCCTCAGGAGCCTCTGCTCCCCTGTGAACCCACTGAACCTTCTGAGCCCCCAC TGCTTCTATGGGGCTCTCTCTCTCCCCTTCTCAGGAAAGCTGGTGTCTGATTTTGGCCATCAGGACTCTGACGTC TCTTTGGTCTTGTTGATTTCCTCTGGGCATATCCCTTCCCCAGATCTGCTCCTCCCCTTTCACAGGTGGGATCGG

#### 4149/6881 FIGURE 3826B

WO 2004/030615 PCT/US2003/028547

## FIGURE 3827

 $\label{thm:converse} $$ \mathbf{MPREDRATWKSNYFLKIIQLLDDYPKCFIVGADNVGSKQMQQIRMSLRGKAVVLMGKNTMMRKAIRGHLENNPALEKLLPHIRGNVGFVFTKEDLTEIRDMLLANKVPAAARAGAIAPCEVTVPAQNTGLGPEKTSFFQALGITTKISRGTIEILSDVQLIKTGDKVGASEATLLNMLNISPFSFGLVIQQVFDNGSIYNPEVLDITEETLHSRFLEGVRNVASVCLQIGYPTVASVPHSIINGYKRVLALSVETDYTFPLAEKVKAFLADPSAFVAAAPVAAATTAAPAAAAAPAKVEAKEESEESDEDMGFGLFD$ 

AGGCCCGGGACCGCGGATGGGTGTCGGCGTGACCAGGCCTGAGCTCCCTGTCTCTCCTCAGTGACATCGTCTTT  $\verb|AAACCCTGCGTGGCAATCCCTGACGCACCGCCGTGATGCCCAGGGAAGACAGGGCGACCTGGAAGTCCAACTACT| \\$ TCCTTAAGATCATCCAACTATTGGATGATTATCCGAAATGTTTCATTGTGGGAGCAGACAATGTGGGCTCCAAGC AGATGCAGCAGATCCGCATGTCCCTTCGCGGGAAGGCTGTGGTGCTGATGGGCAAGAACACCATGATGCGCAAGG CCATCCGAGGCACCTGGAAAACACCCAGCTCTGGAGAAACTGCTGCCTCATATCCGGGGGAATGTGGGCTTTG TGTTCACCAAGGAGGACCTCACTGAGATCAGGGACATGTTGCTGGCCAATAAGGTGCCAGCTGCTGCCCGTGCTG GTGCCATTGCCCCATGTGAAGTCACTGTGCCAGCCCAGAACACTGGTCTCGGGCCCGAGAAGACCTCCTTTTTCC AGGCTTTAGGTATCACCACTAAAATCTCCAGGGGCACCATTGAAATCCTGAGTGATGTGCAGCTGATCAAGACTG GAGACAAAGTGGGAGCCAGCGAAGCCACGCTGCTGAACATGCTCAACATCTCCCCCTTCTCCTTTGGGCTGGTCA  ${\tt TCCAGCAGGTGTTCGACAATGGCAGCATCTACAACCCTGAAGTGCTTGATATCACAGAGGAAACTCTGCATTCTC}$ ATTCTATCATCAACGGGTACAAACGAGTCCTGGCCTTGTCTGTGGAGACGGATTACACCTTCCCACTTGCTGAAA AGGTCAAGGCCTTCTTGGCTGATCCATCTGCCTTTGTGGCTGCCCCTGTGGCTGCCACCACACAGCTGCTC  $\verb|CTGCTGCTGCAGCCCAGCTAAGGTTGAAGCCAAGGAAGAGTCGGAGGAGTCGGACGAGGATATGGGATTTG|$ GTCTCTTTGACTAATCACCAAAAAGCAACCAACTTAGCCAGTTTTATTTGCAAAACAAGGAAATAAAGGCTTACT ТСТТТААААААААААААААА

MPREDRATWKSNYFLKIIQLLDDYPKCFIVGADNVGSKQMQQIRMSLRGKAVVLMGKNTMMRKAIRGHLENNPAL EKLLPHIRGNVGFVFTKEDLTEIRDMLLANKVPAAARAGAIAPCEVTVPAQNTGLGPEKTSFFQALGITTKISRG TIEILSDVQLIKTGDKVGASEATLLNMLNISPFSFGLVIQQVFDNGSIYNPEVLDITEETLHSRFLEGVRNVASV CLQIGYPTVASVPHSIINGYKRVLALSVETDYTFPLAEKVKAFLADPSAFVAAAPVAAATTAAPAAAAAPAKVEA KEESEESDEDMGFGLFD

GGCACGAGGAAGCGGTTGGGAAAGTGTCGGTTTATCTTCGCGCCCCTTGCGTTCTTGCCGCGGCTTGCCTGGGCA GGTAAAGCGCGATTGCGAGAGCTCGGCAACCCTGCCGACTCAGCCGGAACCGGCTCCCGGCCCGAGGGGCGTGGT GTCCTGGTGCTCCGACTCCTTCCGCAGGCTCCTTGGGACCCGCGGTTCCGGGAGTCCCTTGCTCAGGGTCCCTTT CCTGCAGTGAGGCGCCGTCCGCCTTCCCTGTGTCCCCGCAGACCCCCATCATGGGCAATACCAGCAGTGAGCGCG CCGCGCTGGAGCGGCATGGTGGCCATAAGACGCCCCGGAGGGACAGCTCGGGGGGCACCAAGGACGGGGACAGGC CCAAGATCCTGATGGACAGCCCCGAAGACGCCGACCTCTTCCACTCCGAGGAAATCAAGGCACCAGAGAAGGAGG AATTCCTGGCCTGGCAGCATGATCTGGAAGTGAATGATAAAGCTCCCGCCCAGGCTCGGCCAACGGTGTTTCGAT GGACGGGGGGGGGAAAGGAAGTTTACTTATCTGGGTCCTTCAACAACTGGAGTAAACTTCCCCTCACCAGAAGCC ACAATAACTTTGTAGCCATCCTGGATCTGCCGGAAGGAGGAGCATCAGTACAAGTTCTTTGTGGATGGTCAGTGGA CGCACGACCCTTCCGAGCCCATAGTAACCAGCCAGCTTGGCACAGTTAACAACATCATTCAAGTGAAGAAAACTG ACTTTGAAGTATTTGATGCTTTAATGGTGGATTCCCAAAAGTGCTCCGATGTGTCTGAGCTGTCCAGTTCTCCCC CAGGACCCTACCATCAGGAGCCCTACGTCTGCAAACCCGAAGAGCGCTTTCGGGCACCCCCTATTCTCCCCCCAC ATCTCCTCCAGGTCATCCTGAACAAGGACACGGGGATTTCCTGTGATCCAGCTTTGCTTCCTGAGCCCAATCACG TCATGCTGAACCACCTATACGCGCTGTCTATCAAGGATGGAGTGATGGTGCTCAGCGCAACCCACCGGTACAAGA AGAAGTACGTCACCACCTTGTTATACAAGCCCATA**TGA**AGAGCTGGGGGGGGGGTGGTGGCCCAGGAGACAGCACA CCACCAGGCTCCACACGTGCATGCTTTCCCCAAGAGGGAATGGACTGTACATTGCTCATTTCACACTCTTCAGAA GACATTTCATACCTGCCTGGTCCTGCATGAAGGTTTGTCCAGGCAGAGCAGCTCCTGCAGCGCCTCGGTCTGTG AGGATCTGCAGCCCTGGCCCCGCTGCATGAGGCTGGGTGCAGTTCTAAACCTACATTCTCGATTTTTCTTAAG CCAAAAATGAATGCTAACTCCTTTGCCAGTAAAATTCTGGGAAACAGGGACTGAGGCCACACATCATTTCCAGTC ATCTGTGTGTTTTTAAGGCCAGCCACTTGTCCCTGTTGAGGCCTGGCTATGGAACTAAATACAGTGTTGGTCTTG CCTGTCCTTCAAAATCAACAACAGATTGTCTCTCGGCTCCAGGGAGGTGTCATTTCTATAGAAATTAGAAGCTTT CTGATTTCTAGATGAGGTTTTACAATTGTTTCTTACAGTCATGTGCACTAAGTACTCTTTTTGTAAGCAGAGGTG GCTGGCTCTGCAGCCTTAAGGCCATTTTTTAAGTCACCACGTCTAGAAGTCACATGAACTCTGCTCAGCAATAAT CTGTTCTCAGAACAGACTTTTCAACCTGCTGCCGGATTTCTCCATTCAGCTGGATGATCCTCAGGACTGACCAGT TAGCTGGCAGGTTGTCCAGCTTTTTATTCCAGTCATAATAGGTGACAGTGTTAACCGTGAAAACTTGAGAGGCAC TCTGCCCTCTTCCCTATAAAATCACACGCGTGATTTTACAAGGTCCCGTGGCACCTTGCTCAGGACCTCTGCCC CTAGTTAGCAAGACTGCAGCAGTTGCTGTTGCTTATTCTGAAAGGAATGTAGAACTTGACAGCAGCCTTCTGAGT CTGGGTCAGGAAGATGTCCTTTGGACCAAAGCAGACTTCTGTATACGCAGCTCAGTTTCCCGGGAGTCGCCACAG ATGTACCCACTAGCCCAGGTTGCTGTGAGTCAGCGGAAGCTCCCGTTATGCCCTTTTGCTCCTGGTGGGAGAGGGA GGAGTGAGCTCCCTGGGTTCCAGTATTTACTTGGTATACCTGAGTTTGGGGGTACCCTTTTTTTGTGACTTTTCAA 

MGNTSSERAALERHGGHKTPRRDSSGGTKDGDRPKILMDSPEDADLFHSEEIKAPEKEEFLAWQHDLEVNDKAPA QARPTVFRWTGGGKEVYLSGSFNNWSKLPLTRSHNNFVAILDLPEGEHQYKFFVDGQWTHDPSEPIVTSQLGTVN NIIQVKKTDFEVFDALMVDSQKCSDVSELSSSPPGPYHQEPYVCKPEERFRAPPILPPHLLQVILNKDTGISCDP ALLPEPNHVMLNHLYALSIKDGVMVLSATHRYKKKYVTTLLYKPI

ATGGCCAGCGTCCACGAGAGCCTCTACTTCAATCCCATGATGACCAATGGGGTTGTGCACGCCAATGTGTTCGGC ATCAAGGACTGGGTGACGCCGTACAAGATCGCGGTGCTGGTGCTGCTGAACGAGATGAGCCGCACAGGCGAGGGC GCCGTCAGCCTCATGGAGCGGCGGAGGCTCAACCAGCTGCTCCTGCCCCTGCTGCAGGGCCCAGATATTACACTG TCAAAACTTTACAAGTTAATTGAAGAGTCTTGTCCACAGCTGGCAAATTCAGTGCAGATCAGAATCAAACTGATG GTGTTTAAACTGTACACTGCCCTTCAGCAGTACTTCCAGAATGGTGAGAAAAAGACAGTGGAGGATGCTGATATG GAACTGACCAGTAGAGATGAGGGTGAAAGAAAAATGGAAAAAGAAGAACTTGATGTATCTGTAAGAGAAGAGAG GATGAGACTAAGGCCCTCACTCCAGCTTCCTTGCAGAAGGAATTAAACAATTTGTTGAAATTTAATCCTGATTTT CATTATTTTGATCGTCTGATTCTTACCGGAGCCGAAAGCAAAAGTAATGGGGAAGAGGGCTATGGCCGGAGCTTG AGATACGCCGCTCTGAATCTTGCCGCCCTGCACTGCCGCTTCGGTCACTATCAACAGGCAGAGCTCGCCCTGCAG GAGGCAATTAGGATTGCCCAGGAGTCCAACGATCACGTGTGTCTCCAGCACTGTTTGAGCTGGCTTTATGTGCTG GGGCAGAAGAGATCCGATAGCTATGTTCTGCTGGAGCATTCTGTGAAGAAGGCAGTACATTTTGGGTTACCGTAC CTCGCCTCCCTGGGAATACAGTCCCTTGTTCAACAGAGAGCTTTTGCTGGGAAGACGGCAAACAAGCTGATGGAT GCCCTAAAGGACTCCGACCTCCTGCACTGGAAACACAGCCTGTCAGAGCTCATCGATATCAGCATCGCACAGAAA ACGGCCATCTGGAGGCTGTATGGCCGCAGCACCATGGCACTGCAACAGGCCCAGATGTTGCTGAGCATGAACAGC CTGGAGGCGGTGAATGCGGGCGTGCAGCAGAACACACAGAGTCCTTTGCTGTCGCACTCTGCCACCTCGCAGAG CTACACGCGGAGCAGGGCTGTTTTGCTGCAGCTTCTGAAGTGTTAAAGCACTTGAAGGAACGATTTCCGCCTAAT CATTTGGCTGATTCACTTGTTACAGGAATCACAGCTCTCAATAGCATAGAGGGTGTTTATAGGTAAG

GCCTGGGACTGTGTCTGCCCCATGGCCGCCGCGCTGCTCGCCCGGGCCTCGGGCCCTGCCCGCAGAGCTCTCT GTCCTAGGGCCTGGCGCAGTTACACACCATCTACCAGTCTGTGGAACTGCCCGAGACACCAGATGTTGCTCC AGACATGCCGGGACTTTGCCGAGAAGGAGTTGTTTCCCATTGCAGCCCAGGTGGATAAGGAACATCTCTTCCCAG TCGATTACCTGGCCTACGCCATCGCCATGGAGGAGATCAGCCGCGGCTGCGCCTCCACCGGAGTCATCATGAGTG TCAACAACTCTCTCTACCTGGGGCCCATCTTGAAGTTTGGCTCCAAGGAGCAGAAGCAGGCGTGGGTCACGCCTT TCACCAGTGGTGACAAAATTGGCTGCTTTGCCCTCAGCGAACCAGGGAACGGCAGTGATGCAGGAGCTGCGTCCA CCACCGCCCGGGCCGAGGGCGACTCATGGGTTCTGAATGGAACCAAAGCCTGGATCACCAATGCCTGGGAGGCTT  $\tt CGGCTGCCGTGGTCTTTGCCAGCACGGACAGAGCCCTGCAAAACAAGGGCATCAGTGCCTTCCTGGTCCCCATGC$ CAACGCCTGGGCTCACGTTGGGGAAGAAGAAGAAGACAAGCTGGGCATCCGGGGCTCATCCACGGCCAACCTCATCT TTGAGGACTGTCGCATCCCAAGGACAGCATCCTGGGGGGAGCCAGGGATGGGCTTCAAGATAGCCATGCAAACCC TGGACATGGGCCGCATCGCCTCCCCAGGCCCTGGGCATTGCCCAGACCGCCCTCGATTGTGCTGTGAACT ACGCTGAGAATCGCATGGCCTTCGGGGCGCCCCTCACCAAGCTCCAGGTCATCCAGTTCAAGTTGGCAGACATGG CCCTGGCCCTGGAGAGTGCCCGGCTGCTGACCTGGCGTGCTGCCATGCTGAAGGATAACAAGAAGCCTTTCATCA AGGAGGCAGCCATGGCCAAGCTGGCCGCCTCGGAGGCCGCCGCCATCAGCCCACCAGGCCATCCAGATCCTGG GCGGCATGGGCTACGTGACAGAGATGCCGGCAGAGCGGCACTACCGCGACGCCCGCATCACTGAGATCTACGAGG GCACCAGCGAAATCCAGCGGCTGGTGATCGCCGGGCATCTGCTCAGGAGCTACCGGAGCTGAGCCCGCGGCGGAC TGCCCCAGGACTGCGGGAAGGCGGGGGCCAGGGGCCTCCACCCCAACCCCGGCTCAGAGACTGGGCGGCCCGG CGGGGGCTCCCTGGGGACCCCAGATGGGCTCAGTGCTGCCACCCAGATCAGATCACATGGGAATGAGGCCCTCCG ACCATTGGCAGCTCCGCCTCTGGGCCTTTCCGCCTCCTCACCACTGTGCCTCAAGTTCCTCATCTAAGTGGCCCT GGCCTCCTGGAGGCGGGGTTGTGGGGGGGGCTGAGCGACACTCAGGGACACCTCAGTTGTCCTCCCGCGGGCCCTG CAGGGCTGGGGTCAGGATGACGAGGCCTGGGGTCCTGGTGTTGGGCAGGTGGTGGGGCCTGGGCCATGGAGCTGGC TAATAAACACACCTGTCCCCC

### FIGURE 3836

### FIGURE 3837

GGCACGAGGCATGGGCGGAGCCGTAGTTACGGTCGACTGGGGCGTCGTCCCTAGCCCGGGAGCCGGGTCTCTGGA CTGTCAGCGACGTCCAGGAGCTGATGCGGCGCAAGGAGGAGATAGAAGCGCAGATCAAGGCCAACTATGACGTGC TGGAAAGCCAAAAAGGCATTGGGATGAACGAGCCGCTGGTGGACTGTGAGGGCTACCCCCGGTCAGACGTGGACC TGTACCAAGTCCGCACCGCCAGGCACAACATCATATGCCTGCAGAATGATCACAAGGCAGTGATGAAGCAGGTGG AGGAGGCCCTGCACCAGCTGCACGCTCGCGACAAGGAGAAGCAGGCCCGGGACATGGCTGAGGCCCACAAAGAGG CCATGAGCCGCAAACTGGGTCAGAGTGAGAGCCAGGGCCTCCACGGGCCTTCGCCAAAGTGAACAGCATCAGCC CCGGCTCCCCAGCCAGCATCGCGGGTCTGCAAGTGGATGATGAGATTGTGGAGTTCGGCTCTGTGAACACCCCAGA ACTTCCAGTCACTGCATAACATTGGCAGTGTGGTGCAGCACAGTGAGGGGGAAGCCCCTGAATGTGACAGTGATCC GCAGGGGGAAAAACACCAGCTTAGACTTGTTCCAACACGCTGGGCAGGAAAAGGACTGCTGGGCTGCAACATTA TTCCTCTGCAAAGA**TGA**TTGTCCCTGGGGAACAGTAACAGGAAAGCATCTTCCCTTGCCCTGGACTTGGGTCTAG GGATTTCCAACTTGTCTTCTCCCTGAAGCATAAGGATCTGGAAGAGGCTTGTAACCTGAACTTCTGTGTGGTG GCAGTACTGTGGCCCACCAGTGTAATCTCCCTGGATTAAGGCATTCTTAAAAACTTAGGCTTGGCCTCTTTCACA AATTAGGCCACGGCCCTAAATAGGAATTCCCTGGATTGTGGGCAAGTGGGCGGAAGTTATTCTGGCAGGTACTGG TGTGATTATTATTATTATTAATAAAGAGTTTTACAGTGCTGATATGACCCTGTTGTCACCCCAGCTGAATTT CTTATGACCCTCCCAAACCAAAGCTCAGATGGGGTCAGAAGAGCTTCATAGAAAGTTGGGCAAAACAGGCTAGCA ATTGCAAAGTCAGGCTTTGACCAACATATTTCTTTGCACTGAGGCCTTGCTGCTGCTGGATACGGAAATGGTTAAG TACTGTGCTTCCTCAGCAGCTGGGCTGTCAGGGCCATAGTAGCTCCCTTTGGAGAACAGGGAAAGCCTGGAGGCT  ${\tt TCCCAGGTGGCCCAGCGTGGTGTCCTGTCAGCTTCCTCTTTAGGAACCCACCAGAGGGCAGCAAGCTCCTTTCAC}$ TTCGCTAGTAAGAACCCCTCCGTTTTTGTGTGTTTTTTGTTTTTTGTTTTTCTGGAGACAAGGTCTTGCTTTGTCACC  ${\tt CAGGCTGGAGTGCAGTGTCATGAAGGTTCACTGAAGCCTTGACGCTGTGGGCACTGCCTCAGCCGCCCAAGT}$ CAGGTTGGTCTCGAACTCCTGGGCTCAAGCAGTCCTCCTGCCTTGGCCTCCTAAAGTGCTGGGATCACAGGCGTG AGCCACTGCGCCCAGCCCACTGCTAGTTTGACTTTTATAATTGAACCTCCTGGCTATGCCCTGAGATCAGCGCT ATTTTGTAAACCGCTGAGGTATGGATAGGAACGAGTAGATCAGACCTCTTGAAAATGCTTATTCTTCCTCCCTTT TATTTTTTGTCTCTTTTAAGATGGTAAAATGGTTCTCAGGGATTCCTGCCAATACTTTGAATTATTTTTTCCTCT CCATGGTATCAGTGTTCATTTCCCCAGTTCTTGCACACCGCTTTCTGTTTTTGGCAGTTCTGCCAGGCAAGCCCTG TGTTCCTTGGGACTGGTTTTGCTGTGGTTGGATACAGATACCAGCTTGCCTTGATGGGATTGGTATTGCTGTGTG CTTCCAGCCACAGGTTCTCACACTCAATTCCAAAGCCTTCCTATTGGGCGAATTCCCTCAAACTCTATTTGACCT GACAGCCATACGTATTCCCCTCTGGTAGCCACAGACATGCTGTGTTTACCAATGTTTGCTGTTTAAATTGCATGT TCTAATTCCACGTATTTTCCAGTCTCTTTTATAAAGTCTCAGACTATAATAAACACAGCTTGCCCAGTTAAAAAA AAAAAAAAAAA

 ${\tt MSDEEARQSGGSSQAGVVTVSDVQELMRRKEEIEAQIKANYDVLESQKGIGMNEPLVDCEGYPRSDVDLYQVRTARHNIICLQNDHKAVMKQVEEALHQLHARDKEKQARDMAEAHKEAMSRKLGQSESQGPPRAFAKVNSISPGSPASIAGLQVDDEIVEFGSVNTQNFQSLHNIGSVVQHSEGKPLNVTVIRRGEKHQLRLVPTRWAGKGLLGCNIIPLQR}$ 

### FIGURE 3839

 $\tt GTGCGTCTGGCGTCCGCGCGCTGCACA{\color{red} ATC} GCGGCTCTGAAGAGTTGGCTGTCGCGCAGCGTAACTTCATTCTTC$ AGGTACAGACAGTGTTTGTGTGTTCCTGTTGTGGCTAACTTTAAGAAGCGGTGTTTCTCAGAATTGATAAGACCA TGGCACAAAACTGTGACGATTGGCTTTGGAGTAACCCTGTGTGCGGTTCCTATTGCACAGAAATCAGAGCCTCAT TCCCTTAGTAGTGAAGCATTGATGAGGAGAGCAGTGTCTTTGGTAACAGATAGCACCTCTACCTTTCTCTCAG ACCACATATGCGTTGATTGAAGCTATTACTGAATATACTAAGGCTGTTTATACCTTAACTTCTCTTTACCGACAA TATACAAGTTTACTTGGGAAAATGAATTCAGAGGAGGAAGATGAAGTGTGGCAGGTGATCATAGGAGCCAGAGCT GAGATGACTTCAAAACACCAAGAGTACTTGAAGCTGGAAACCACTTGGATGACTGCAGTTGGTCTTTCAGAGATG GCAGCAGAAGCTGCATATCAAACTGGCGCAGATCAGGCCTCTATAACCGCCAGGAATCACATTCAGCTGGTGAAA CTGCAGGTGGAAGAGGTGCACCAGCTCTCCCGGAAAGCAGAAACCAAGCTGGCAGAAGCACAGATAGAAGAGCTC CCTGAGCACACTGCCCTGTCTCCCCACTCAGTGGGGAAAGCAGGGGCAGATGCCACCCTGCCCAGGGTTGGCATG ACTGTCTGTGCACCGAGAAGAGGCGGCAGATCCTGCCCTGGCCAATCAGGCGAGACGCCTTTGTGAGCTGTGAGT GCCTCCTGTGGTCTCAGGCTTGCGCTGGACCTGGTTCTTAGCCCTTGGGCACCGCTGTTTAACATTTCACC CCACTCTGTACAGCTGCTCTTACCCATTTTTTTTACCTCACACCCAAAGCATTTTGCCTACCTGGGTCAGAGAGA GGAGTCCTTTTTGTCATGCCCTTAAGTTCAGCAACTGTTTAACCTGTTTTCAGTCTTATTTACGTCGTCAAAAAT GATTTAGTACTTGTTCCCTCTGTTGGGATGCCAGTTGTGGCAGGGGGAGGGGAACCTGTCCAGTTTGTACGATTT CTTTGTATGTATTTCTGATGTGTTCTCTGATCTGCCCCCACTGTCCTGTGAGGACAGCTGAGGCCAAGGAGTGAA AAACCTATTACTACTAAGAGAAGGGGTGCAGAGTGTTTACCTGGTGCTCTCAACAGGACTTAACATCAACAGGAC TTTGCATCTGAAAGAGAAAATGCGTCTCTCCTGG

 $\label{thm:construction} {\tt MAALKSWLSRSVTSFFRYRQCLCVPVVANFKKRCFSELIRPWHKTVTIGFGVTLCAVPIAQKSEPHSLSSEALMR$$ RAVSLVTDSTSTFLSQTTYALIEAITEYTKAVYTLTSLYRQYTSLLGKMNSEEEDEVWQVIIGARAEMTSKHQEY$$ LKLETTWMTAVGLSEMAAEAAYQTGADQASITARNHIQLVKLQVEEVHQLSRKAETKLAEAQIEELRQKTQEEGE$$ ERAESEQEAYLRED$$.$ 

### FIGURE 3841A

GTGAGTCGCGCGGACGAGCCGGACAAAAGCGGGCGGCGGCGGCAGGATGAACAGCATCAAGAACGTGCCGGCGC GGGTGCTGAGCCGCAGGCCGGGCCACAGCCTGGAGGCCGAGCGCGAGCAGTTCGACAAGACCCAGGCCATCAGCA TCAGCAAAGCCATCAACACCCAGGAGGCCCCCGTGAAGGAGAAGCACGCCCGGCGCATCATTCTGGGCACACACC ACGAGAAGGGGGCTTTCACCTTCTGGTCCTACGCCATTGGGCTGCCGCTGCCCAGCAGCTCCATTCTCAGCTGGA AGTTCTGCCACGTCCTCCACAAGGTCCTTCGAGACGGGCACCCCAATGTGCTGCATGACTGCCAGCGGTACCGCA GCAACATCCGGGAGATTGGAGACCTGTGGGGACATTTGCATGACCGCTACGGACAGCTGGTGAATGTCTACACCA AGCTGCTGACCAAGATCTCCTTCCACCTCAAGCATCCCCAGTTTCCCGCGGGCCTGGAGGTGACAGATGAGG TACTGGAGAAGGCAGCTGGGACCGATGTCAACAACATCTTCCAGCTCACTGTGGAGATGTTTGATTACATGGATT GTGAGCTGAAGCTTTCTGAATCAGTTTTCCGACAGCTCAACACGGCCATCGCCGTATCCCAGATGTCCTCAGGCC  ${\tt AGTGCCGCCTGGCCCCCTGATCCAGGTCATCCAGGACTGCAGCCACCTCTACCACTACACGGTCAAGCTCCTGT}$ TCAAGCTACACTCTTGTCTCCCTGCGGACACCCTGCAAGGCCACAGGGACCGGTTCCACGAGCAGTTTCACAGCC TCAGGAACTTCTTCCGCAGAGCCTCCGACATGCTGTACTTCAAGCGGCTCATCCAGATCCCCCGGCTGCCCGAGG GACCCCTAACTTCCTGCGGGCCTCAGCCCTGGCTGAGCACATCAAGCCGGTGGTGGTGATCCCCGAGGAGGCCC CGGAAGATGAGGAGCCGGAGAATCTCATTGAGATCAGCACAGGGCCCCCCGCGGGGGAGCCAGTGGTGGCTG ACCTCTTCGATCAGACGTTTGGACCCCCCAATGGGTCTGTGAAGGACGACAGGGACCTCCAGATTGAGAGCTTGA AGAGAGAGGTGGAAATGCTCCGCTCTGAACTGGAGAAGATCAAGCTGGAGGCCCAGCGGTACATCGCGCAGCTGA AGAGCCAGGTGAATGCACTGGAGGGTGAGCTGGAGGAGCAGCAGCAGAAGCAGAAGCCCTGGTGGATAATG AGCAGCTCCGCCACGAGCTGGCCCAGCTGAGGGCTGCCCAGCTGGAGGGCGAGCCAGGGCCAGGGCCTGCGTGAGG AGGCTGAGAGGAAGGCCAGTGCCACGGAGGCGCGCTACAACAAGCTGAAGGAAAAGCACAGTGAGCTCGTCCATG TGCACGCGGAGCTGCTCAGAAAGAACGCGGACACAGCCAAGCAGCTGACGGTGACGCAGCAAAGCCAGGAGGAGG TGGCGCGGGTGAAGGAGCAGCTGGCCTTCCAGGTGGAGCAGGTGAAGCGGGAGTCGGAGTTGAAGCTAGAGGAGA AGAGCGACCAGCTGGAGAAGCTCAAGAGGGAGCTGGAGGCCAAGGCCGGAGAGCTGGCCCGCAGGAGGCCCC TGAGCCACACAGAGCAGAGCAAGTCGGAGCTGAGCTCACGGCTGGACACGCTGAGTGCGGAGAAGGATGCTCTGA GTGGAGCTGTGCGGCAGCGGGAGGCAGACCTGCTGGCGGCGCAGAGCCTGGTGCGCGAGACAGAGGCGGCGCTGA GCCGGGAGCAGCAGCAGCTCCCAGGAGCAGGCGAGTTGCAGGGCCGGCTGGCAGAGAGGGAGTCTCAGGAGC AGGGGCTGCGGCAGAGCTGCTGGACGAGCAGTTCGCAGTGTTGCGGGGCGCTGCTGCCGAGGCCGCGGGCATCC TGCAGGATGCCGTGAGCAAGCTGGACGACCCCCTGCACCTGCGCTGTACCAGCTCCCCAGACTACCTGGTGAGCA GGGCCCAGGAGGCCTTGGATGCCGTGAGCACCCTGGAGGAGGGCCCACGCCCAGTACCTGACCTCCTTGGCAGACG CCTCCGCCCTGGTGGCAGCTCTGACCCGCTTCTCCCACCTGGCTGCGGATACCATCATCAATGGCGGTGCCACCT TCATGGGGCAGCTGCAGGACCAGCAGGCTCTGCGGCACATGCAGGCCAGCCTGGTGCGGACACCCCTGCAGGGCA TCCTTCAGCTGGGCCAGGAACTGAAACCCAAGAGCCTAGATGTGCGGCAGGAGGAGCTGGGGGCCGTGGTCGACA AGGAGATGGCGGCCACATCCGCAGCCATTGAAGATGCTGTGCGGAGGATTGAGGACATGATGAACCAGGCACGCC ACGCCAGCTCGGGGGTGAAGCTGGAGGTGAACGAGAGGATCCTCAACTCCTGCACAGACCTGATGAAGGCTATCC AATTTTACGCCAAGAACTCGCGCTGGACCGAAGGCCTCATCTCGGCCTCCAAGGCTGTGGGCTGGGGAGCCACAC AGCTGGTGGAGGCAGCTGACAAGGTGGTGCTTCACACGGGCAAGTATGAGGAGCTCATCGTCTGCTCCCACGAGA TCGCAGCCAGCACGGCCCAGCTGGTGGCGGCCTCCAAGGTGAAGGCCAACAAGCACAGCCCCCACCTGAGCCGCC TGCAGGAATGTTCTCGCACAGTCAATGAGAGGGCTGCCAATGTGGTGGCCTCCACCAAGTCAGGCCAGGAGCAGA TTGAGGACAGAGACACCATGGATTTCTCCGGCCTGTCCCTCATCAAGCTGAAGAAGCAGGAGATGGAGACCCAGG TGCGTGTCCTGGAGCTGGAGACGCTGGAGGCTGAACGCATGCGGCTGGGGGAGTTGCGGAAGCAACACTACG TGCTGGCTGGGGCATCAGGCAGCCCTGGAGAGGAGGTGGCCATCCGGCCCAGCACTGCCCCCGAAGTGTAACCA CCAAGAAACCACCCCTGGCCCAGAAGCCCAGCGTGGCCCCCAGACAGGACCACCAGCTTGACAAAAAAGGATGGCA TCTACCCAGCTCAACTCGTGAACTACTAGGCCCCCCAGGGGTCCAGCAGGGTGGCTGGTGACAGGCCTGGGCCTC TGCAACTGCCCTGACAGGACCGAGAGGCCTTGCCCCTCCACCTGGTGCCCAAGCCTCCCGCCCCACCGTCTGGAT GTCTCTTATTTATCTGCAGAAGGAACTTTGGGGTGCAGCCAGGACCCGGTAGGCCTGAGCCTCAACTCTTCAGAA AATAGTGTTTTAATATTCCTCTTCAGAAAATAGTGTTTTTAATATTCCGAGCTAGAGCTCTTCTTCCTACGTTT

#### 4165/6881 FIGURE 3841B

MNSIKNVPARVLSRRPGHSLEAEREQFDKTQAISISKAINTQEAPVKEKHARRIILGTHHEKGAFTFWSYAIGLP
LPSSSILSWKFCHVLHKVLRDGHPNVLHDCQRYRSNIREIGDLWGHLHDRYGQLVNVYTKLLTKISFHLKHPQF
PAGLEVTDEVLEKAAGTDVNNIFQLTVEMFDYMDCELKLSESVFRQLNTAIAVSQMSSGQCRLAPLIQVIQDCSH
LYHYTVKLLFKLHSCLPADTLQGHRDRFHEQFHSLRNFFRRASDMLYFKRLIQIPRLPEGPPNFLRASALAEHIK
PVVVIPEEAPEDEEPENLIEISTGPPAGEPVVVADLFDQTFGPPNGSVKDDRDLQIESLKREVEMLRSELEKIKL
EAQRYIAQLKSQVNALEGELEEQRKQKQKALVDNEQLRHELAQLRAAQLEGERSQGLREEAERKASATEARYNKL
KEKHSELVHVHAELLRKNADTAKQLTVTQQSQEEVARVKEQLAFQVEQVKRESELKLEEKSDQLEKLKRELEAKA
GELARAQEALSHTEQSKSELSSRLDTLSAEKDALSGAVRQREADLLAAQSLVRETEAALSREQQRSSQEQGELQG
RLAERESQEQGLRQRLLDEQFAVLRGAAAEAAGILQDAVSKLDDPLHLRCTSSPDYLVSRAQEALDAVSTLEEGH
AQYLTSLADASALVAALTRFSHLAADTIINGGATSHLAPTDPADRLIDTCRECGARALELMGQLQDQQALRHMQA
SLVRTPLQGILQLGQELKPKSLDVRQEELGAVVDKEMAATSAAIEDAVRRIEDMMNQARHASSGVKLEVNERILN
SCTDLMKAIRLLVTTSTSLQKEIVESGRGAATQQEFYAKNSRWTEGLISASKAVGWGATQLVEAADKVVLHTGKY
EELIVCSHEIAASTAQLVAASKVKANKHSPHLSRLQECSRTVNERAANVVASTKSGQEQIEDRDTMDFSGLSLIK
LKKQEMETQVRVLELEKTLEAERMRLGELRKQHYVLAGASGSPGEEVAIRPSTAPRSVTTKKPPLAQKPSVAPRQ
DHQLDKKDGIYPAQLVNY

## FIGURE 3844

# FIGURE 3846

 ${\tt MALYYQNFYILVVFVLFLHTSRTFVLPVHAVKDSAQVLEEIVKHELGSQVSLLSPVEEPGPSPCTPDIQGRGVRKTLPPNGLDGMFPSSCSPNVSTGAH}.$ 

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### FIGURE 3847

 $\tt CTGGCTTCGGCCTCAGCCCCACC\underline{ATG} GTGACGCTTGCTGAACTGCTGGTGCTCCTGGCCGCTCTCCTGGCCACGG$ TCTCGGGCTATTTCGTTAGCATCGACGCCCATGCTGAAGAGTGCTTCTTTGAGCGGGTCACCTCGGGCACCAAGA TGGGCCTCATCTTCGAGGTGGCGGAGGGCGGCTTCCTGGACATCGACGTGGAGATTACAGGACCAGATAACAAAG GTTTTAGTAACCGGATGTCCACCATGACTCCAAAAATAGTGATGTTCACCATTGATATTGGGGAGGCTCCAAAAG GACAAGATATGGAAACAGAAGCTCACCAGAACAAGCTAGAAGAAATGATCAATGAGCTAGCAGTGGCGATGACAG CTGTAAAGCACGAACAGGAATACATGGAAGTCCGGGAGAGAATACACAGAGCCATCAACGACAACACAAACAGCA GAGTGGTCCTTTGGTCCTTCTTGAAGCTCTTGTTCTAGTTGCCATGACATTGGGACAGATCTACTACCTGAAGA  ${ t GATTTTTTGAAGTCCGGAGAGTTGTT}$ ACACCTTGGTCATAATAATGTCATTAGTTTCTCCATTTTTATTTTCTGAACTGTACATTCACAACTTATGTTTCT TTGAGATTAATAGATATTGGGGGAAAAACGCCTTTTTAGGAAAATTATAGTGAAAATTTGACAGTTGATTGGCAT AATTTCTTGTTTGAATGCTGCCTCCATTATATAGGTCCTTCCAGGAACTCAAACACTGTAAGTGAAATATGGGAG TATAGTTTTTATTATTTCTTCTTTTCCTTTTGTTTTCATAATATAATGCAGTTTGTTCAGGAAATCAGCACAAAG CCTGATAGTACTTACTAAAATGACTGCATTCTTTGGATTCCTTCAGTCTATGGTTCAAGTCACTAAAGATTCAT TTTTGTTGAGTCCTTATGAGAAACAGCAGTATGAATCTTGACGGTTTCTGCCCGTCCTAATGGCAGAGCTCTCTG TACATTTTCCCACATACATTTTTACATTGTACCTTAGGACTCAGTCATCTCCACTTAAATTGATGACACAAGCAG CTAATAACCATTICTGGGTTTCTGCCTAACCCCCTAATTGTCTGTTAAAGCCAATTCTCTGGGTGTCCCAGTGAG TGGTGGCTTTTTTTCTTTCCACATTGGCACATTCACTTCTCCCACTCTTGGCATGTAAGAAATAAGCATTTACAT AATTGGAAAAATCTGGATTTCTGATGCCAAAGGGTTAAAGCTTCTTGGATTTCATTTCATTGATATACAGCCACT ATTTTATTTTTGATCAGTGGCCTTTGGGCCACTGTTCAGGGTACTGACCATCAGTGTCAGCATTAGGGTTTTGGT TTTTGTTTCTTTTGGGTATTTCTTTTTTGGCACATGTGAATCTTGTTTTGTGTAAAATGAAATTACTTTCTCTTG TTCTCTGATGATGGGTTTAAAATTAAAAGAGCATCCGGTTTTGGTATGGGGATGATCCAGGATTATGTTGTGACT TTATATAATTAATTTAAATTTGTTACAGGTTTTCATGTTCAGGATAAACCATACTTCCACCTTGGGTGAGAACAC 

MVTLAELLVLLAALLATVSGYFVSIDAHAEECFFERVTSGTKMGLIFEVAEGGFLDIDVEITGPDNKGIYKGDRE SSGKYTFAAHMDGTYKFCFSNRMSTMTPKIVMFTIDIGEAPKGQDMETEAHQNKLEEMINELAVAMTAVKHEQEY MEVRERIHRAINDNTNSRVVLWSFFEALVLVAMTLGQIYYLKRFFEVRRVV

### FIGURE 3849

ATCTGCGGAAGTGGAGTGCGGGAGTGCGCCGGAAGAGGGGTACGGAAGTGCGCCGGAAGTGGGGTGCGGAGGTG  $\texttt{CCCCTGGGGCTCCGCAGCAGGAGGACGCC} \underline{\textbf{ATC}} \\ \texttt{GACGACAAGGAGTTAATTGAATACTTTAAGTCTCAGATGAAAG} \\$ AAGATCCTGACATGGCCTCAGCAGTGGCTGCCATCCGGACGTTGCTGGAGTTCTTGAAGAGAGATAAAGGGGAGA CAATCCAGGGTCTGAGGGCGAATCTCACCAGTGCCATAGAAACCCTGTGTGGTGTGGACTCCTCTGTGGCAGTGT CCTCTGGCGGGGAGCTCTTCCTCCGCTTCATCAGTCTTGCCTCCCTGGAATACTCCGATTACTCCAAATGTAAAA AGATCATGATTGAGCGGGGAGAACTTTTTCTCAGGAGAATATCACTGTCAAGAAACAAAATTGCAGATCTGTGCC ATACTTTCATCAAAGATGGAGCGACAATATTGACTCACGCCTACTCCAGAGTGGTCCTGAGAGTCCTGGAAGCAG CCGTGGCGGCCAAGAAGCGATTTAGTGTATACGTCACAGAGTCACAGCCTGATTTGTCAGGTAAGAAAATGGCCA AAGCCCTCTGCCACCTCAACGTCCCTGTCACTGTGGTGCTAGATGCTGCTGTCGGCTACATCATGAGAAAAGCAG CTGTGTGTGCCAAAGCACAGAACCTTTCTATGTGGTTGCAGAAAGTTTCAAGTTTGTCCGGCTCTTTCCAC TAAACCAGCAAGACGTCCCAGATAAGTTTAAGTATAAGGCAGACACTCTCAAGGTCGCGCAGACTGGACAAGACC  $\tt TGACACCCTCAGCAGTCAGCGATGAGCTCATCAAGCTCTATCTG\underline{TAA}CCTGTGAGCCCTTTCCTGCCAAGGTGCA$  ${\tt GCTTACGTAGTTGAGGCAGGGTGAGTAGCTGCTTGACACCCCAGTGAGTCAGGCCAAAACTGAGATGTGTTTAAT}$ GAAGATTTATGGAGTAAGGACTTAAAATCATACATCTTGGAGAACCTTTCTTACTCATTTCAGTCCCATCTAAAA ATGTGTCAGCTATTCTAAATCCCAACTTAAATTGTTCTTACGGTTTCTAGAAACTTTCCTTTTCAGTTTCCAGAA ATACAAGTTAGATAATTGGCTACTTAACTGATGAAAGATGAGCCCAAGTCCACCTGTCTTCATCCTCCCCTGCAC TCCAGACTGATCTGCCTAAAGCACGCGAGATGCAGGCGAAAAGCAGCCACACCCCTCTGCCACAAATGACCAACA GCTGGTCAGGACGTTACACGCGGTGCCTTGTAAGAGGCAAGAAACACTTGCTGAATCTGCATCTGGCTTCCAGTG GTAAGCACATTCCTCAGCAGGATCAAGCCAAACAGTAAAAACTACCAAGAGAACACGAGGAAGGCAGAAACGATG TTTAGCAACAGTATTCTGCATGGTTCACTGCTTAAGAAAATGCCTTCTGGAATATTTGTAAACTGAAATTCTGTA TGTGTAAGAGATGTTTAAATATGTTTGGGTCCTAAACAGCTTTTTAAAATTATACTTGGGAATAAATTCAGCATC TTTTCAAATAAACTCTATGAAAGAC

MDDKELIEYFKSQMKEDPDMASAVAAIRTLLEFLKRDKGETIQGLRANLTSAIETLCGVDSSVAVSSGGELFLRF ISLASLEYSDYSKCKKIMIERGELFLRRISLSRNKIADLCHTFIKDGATILTHAYSRVVLRVLEAAVAAKKRFSV YVTESQPDLSGKKMAKALCHLNVPVTVVLDAAVGYIMEKADLVIVGAEGVVENGGIINKIGTNQMAVCAKAQNKP FYVVAESFKFVRLFPLNQQDVPDKFKYKADTLKVAQTGQDLKEEHPWVDYTAPSLITLLFTDLGVLTPSAVSDEL IKLYL

#### #175/6881 FIGURE 3851

MGFVACSQEVGQALGTLIHESSIPYEGCCRPCHLARG

GCTGCTGGGCCGGGGCCTTTCGTGGCCGCCGGGCCGCTCGGTGGGACGGAAGCGTGTGGAGAGACCGCCAAG GGCTGTAGTCTGGGTCCGCGAGCAAGGTTGCCCTGAACTGGGGGGTTGGGGGGAGCGCAGCAAAATGGCGGCTGTT GCAAGAACCCAAGGTCTTGAGGCCTTCGCTAATGCGGGAAAGCTCTTATTCGGGTGAGATGGGCTGGGGCACCAT CTGGGGACCCTGACGTGAAGTTTGTCACTGACTGGAGAACTCGGTTTGTCGTCTGTTGCGGGGGGCGGCAGTTATG GCGGTGCCGTTGGGCAGTGCACCCGTACCTTTGGGAGCGCGCCCCTCGTCGTGTCGTGACGTCACCCGTTCTGT TGGCTTATAATGCAGGGTGGGGCCACCTGCCGGTAGGTGTGCGGTAGGCTTTTCTCCGTCGCAGGACGCAGGGTT TTCTTTGGTCGGTTTTATGTACCTATCTTCTTAAGTAGCTGAAGCTCCGGTTTTGAACTATGCGCTCGGGGTTGG CGAGTGTGTTTTGTGAAGTTTTTTAGGCACCTTTTGAAATGTAATCATTTGGGTCAATATGTAATTTTCAGTGTT AGACTAGTAAATTGTCCGCTAAATTCTGGCCGTTTTTTGGCTTTTTTGTTAGACAATGCAGATCTTCGTGAAGACT CTGACTGGTAAGACCATCACCCTCGAGGTTGAGCCCAGTGACACCATCGAGAATGTCAAGGCAAAGATCCAAGAT AAGGAAGGCATCCCTCCTGACCAGCAGAGGCTGATCTTTGCTGGAAAACAGCTGGAAGATGGGCGCACCCTGTCT GACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAAATCTTCGTGAAG ACACTCACTGGCAAGACCATCACCCTTGAGGTGGAGCCCAGTGACACCATCGAGAACGTCAAAGCAAAGATCCAG GACAAGGAAGCATTCCTCCTGACCAGCAGAGGTTGATCTTTGCCGGAAAGCAGCTGGAAGATGGGCGCACCCTG TCTGACTACAACATCCAGAAAGAGTCTACCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAGATCTTCGTG AAGACCCTGACTGGTAAGACCATCACCCTCGAGGTGGAGCCCAGTGACACCATCGAGAATGTCAAGGCAAAGATC CAAGATAAGGAAGGCATTCCTCCTGATCAGCAGAGGTTGATCTTTGCCGGAAAACAGCTGGAAGATGGTCGTACC CTGTCTGACTACAACATCCAGAAAGAGTCCACCTTGCACCTGGTACTCCGTCTCAGAGGTGGGATGCAAATCTTC GTGAAGACACTCACTGGCAAGACCATCACCCTTGAGGTCGAGCCCAGTGACACTATCGAGAACGTCAAAGCAAAG ATCCAAGACAAGGAAGCATTCCTCCTGACCAGCAGAGGTTGATCTTTGCCGGAAAGCAGCTGGAAGATGGGCGC ACCCTGTCTGACTACAACATCCAGAAAGAGTCTACCCTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAGATC TTCGTGAAGACCCTGACTGGTAAGACCATCACCCTCGAAGTGGAGCCGAGTGACACCATTGAGAATGTCAAGGCA AAGATCCAAGACAAGGAAGGCATCCCTCCTGACCAGCAGAGGTTGATCTTTGCCGGAAAACAGCTGGAAGATGGT CGTACCCTGTCTGACTACAACATCCAGAAAGAGTCCACCTTGCACCTGGTGCTCCGTCTCAGAGGTGGGATGCAG ATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAGGTGGAGCCGAGTGACACCATTGAGAATGTCAAG GCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGATCAGCAGAGGTTGATCTTTGCTGGGAAACAGCTGGAAGAT GGACGCACCCTGTC<u>TGA</u>CTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTTAGAGGTGGGATG CAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAAGTGGAGCCGAGTGACACCATTGAGAATGTC AAGGCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGACCAGCAGAGGTTGATCTTTGCTGGGAAACAGCTGGAA GATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTTAGAGGTGGG ATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAAGTGGAGCCGAGTGACACCATTGAGAAT GTCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGACCAGCAGAGGTTGATCTTTGCTGGGAAACAGCTG GAAGATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTCAGAGGT GGGATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACCCTCGAGGTGGAGCCCAGTGACACCATCGAG AATGTCAAGGCAAAGATCCAAGATAAGGAAGGCATCCCTCCTGATCAGCAGAGGTTGATCTTTGCTGGGAAACAG CTGGAAGATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCACTCTGCACTTGGTCCTGCGCTTGAGG GGGGGTGTCTAAGTTTCCCCTTTTAAGGTTTCAACAAATTTCATTGCACTTTCCTTTCAATAAAGTTGTTGCATT CCCAATTGGTGTTTTTTTTTTTTTTTTTTTTTTTTTTAAGTTTATTTTGCATT

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### 4178/6881 FIGURE 3854

MQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRG
GMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLR
GGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRL
RGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLR
LRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVL
RLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLV
LRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHL
VLRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLH
LVLRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLH
LVLRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLH
LVLRLRGGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLH
LVLRLRGGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLH

GGAAGATGGTCGTACCCTGTCTGACTACAACATCCAGAAAGAGTCCACCTTGCACCTGGTGCTCCGTCTCAGAGG
TGGGATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAGGTGGAGCCGAGTGACACCATTGA
GAATGTCAAGGCAAAGATCCAAGACAAGGAAGGCATCCCTCCTGATCAGCAGAGGTTGATCTTTGCTGGGAAACA
GCTGGAAGATGGACGCACCCTGTCTGACTACAACATCCAGAAAGAGTCCACCCTGCACCTGGTGCTCCGTCTTAG
AGGTGGGATGCAGATCTTCGTGAAGACCCTGACTGGTAAGACCATCACTCTCGAAGTGGAGCCGAGTGACACCAT
TGAGAATGTCAAGGCAAAGATCCAAGACCCTGACTGGTAAGACCATCACT

### FIGURE 3856A

CATGTCGGGATCCACACAGCCTGTGGCACAGACGTGGAGGGCCACTGAGCCCCGCTACCCGCCCCACAGCCTTTC CTACCCAGTGCAGATCGCCCGGACGCACACGGACGTCGGGGCTCCTGGAGTACCAGCACCACTCCCGCGACTATGC GAATGAACGGTCCCAGGAGCTCCACCTGCGGCCAGAGTCCCACTCATACCTGCCCGAGCTGGGGAAGTCAGAGAT GGAGTTCATTGAAAGCAAGCGCCCTCGGCTAGAGCTGCTGCCTGACCCCTGCTGCGACCGTCACCCCTGCTGGC CACGGGCCAGCCTGCGGGATCTGAAGACCTCACCAAGGACCGTAGCCTGACGGGCAAGCTGGAACCGGTGTCTCC CCCCAGCCCCCGCACACTGACCCTGAGCTGGAGCTGGTGCCGCCACGGCTGTCCAAGGAGGAGCTGATCCAGAA CATGGACCGCGTGGACCGAGAGATCACCATGGTAGAGCAGCAGATCTCTAAGCTGAAGAAGAAGCAGCAACAGCT GGAGGAGGAGGCTGCCAAGCCGCAGCCTGAGAAGCCCGTGTCACCGCCGCCCATCGAGTCGAAGCACCGCAG CCTGGTGCAGATCATCTACGACGAGAACCGGAAGAAGGCTGAAGCTGCACATCGGATTCTGGAAGGCCTGGGGCC CCAGGTGGAGCTGCCGCTGTACAACCAGCCCTCCGACACCCGGCAGTATCATGAGAACATCAAAATAAACCAGGC GATGCGGAAGAAGCTAATCTTGTACTTCAAGAGGAGGAATCACGCTCGGAAACAATGGGAGCAGAAGTTCTGCCA GCGCTATGACCAGCTCATGGAGGCCTGGGAGAAGAAGGTGGAGCGCATCGAGAACAACCCCCGGCGGCGGCCAA GGAGAGCAAGGTGCGCGAGTACTACGAGAAGCAGTTCCCTGAGATCCGCAAGCAGCGGGGGCTGCAGGAGCGCAT CATCGATGGCCTCTCAGAGCAGGAGAACCTGGAGAAGCAGATGCGCCAGCTGGCCGTGATCCCGCCCATGCTGTA CGACGCTGACCAGCAGCGCATCAAGTTCATCAACATGAACGGGCTTATGGCCGACCCCATGAAGGTGTACAAAGA CCGCCAGGTCATGAACATGTGGAGTGAGCAGGAGAAGGAGACCTTCCGGGAGAAGTTCATGCAGCATCCCAAGAA CTTTGGCCTGATCGCATCATTCCTGGAGAGGAAGACAGTGGCTGAGTGCGTCCTCTATTACTACCTGACTAAGAA GAATGAGAACTATAAGAGCCTGGTGAGACGGAGCTATCGGCGCCGCGGCAAGAGCCAGCAGCAACAACAGCA GCAGCAGCAGCAGCAGCAGCAGCAGCCAGCCCATGCCCCGCAGCAGCCAGGAGGAGAAAGATGAGAAGGAGAA GGAAAAGGAGGCGGAGAAGGAGGAGGAGAAGCCGGAGGTGGAGAACGACAAGGAAGACCTCCTCAAGGAGAAGAC AGACGACACCTCAGGGGAGGACAACGACGAGAAGGAGGGCTGTGGCCTCCAAAGGCCGCAAAACTGCCAACAGCCA GGGAAGACGCAAAGGCCGCATCACCCGCTCAATGGCTAATGAGGCCAACAGCGAGGAGGCCATCACCCCCCAGCA GAGCGCCGAGCTGGCCTCCATGGAGCTGAATGAGAGTTCTCGCTGGACAGAAGAAAAAAGGAAAACAGCCAAGAA AGGTCTCCTGGAACACGGCCGCAACTGGTCGGCCATCGCCCGGATGGTGGGCTCCAAGACTGTGTCGCAGTGTAA GAACTTCTACTTCAACTACAAGAAGAGGCAGAACCTCGATGAGATCTTGCAGCAGCACAAGCTGAAGATGGAGAA TGCCTCTGGGAATGAGGTGCCCAGAGGGGAATGCAGTGGCCCAGCCACTGTCAACAACAGCTCAGACACCGAGAG CATCCCCTCTCCTCACACTGAGGCCGCCAAGGACACAGGGCAGAATGGGCCCCAAGCCCCAGCCACCCTGGGCGC CGACGGGCCACCCCAGGGCCACCCCACCACCGGAGGACATCCCGGCCCCACTGAGCCCACCCGGCCTC TGAAGCCACCGGAGCCCCTACGCCCCACCAGCACCCCCATCGCCCTCTGCACCTCCTCTGTGGTCCCCAAGGA GGAGAAGGAGGAGGAGCCCCCCAGTGGAGGAGGGGGAGCAGAAGCCCCCCGCGGCTGAGGA GCTGGCAGTGGACACAGGGAAGGCCGAGGAGCCCGTCAAGAGCGAGTGCACGGAGGAAGCCGAGGAGGAGGCCGGC CAAGGGCAAGGACGCGGAGGCCGTGAGGCCACGGCCGAGGGGGGCGCTCAAGGCAGAAGAAGAAGGAGGCGGGAG CGGCAGGGCCACCACAGCCAAGAGCTCGGGCGCCCCCCAGGACAGCGACTCCAGTGCTACCTGCAGTGCAGACGA GGTGGATGAGGCCGAGGGCGGCGACAAGAACCGGCTGCTGTCCCCAAGGCCCAGCCTCCTCACCCCGACTGGCGA CATCCAGGTCACCAAAGTCCATGAGCCCCCCGGGAGGACGCAGCTCCCACCAAGCCAGCTCCCCAGCCCACC GCCACCGCAAAACCTGCAGCCGGAGAGCGACGCCCCTCAGCAGCCTGGCAGCCCCCCGGGGCAAGAGCAGGAG CCCGGCACCCCCGCCGACAAGGAGGCCTTCGCAGCCGAGGCCCAGAAGCTGCCTGGGGACCCCCTTGCTGGAC TTCCGGCCTGCCCTTCCCCGTGCCCCCCGTGAGGTGATCAAGGCCTCCCCGCATGCCCCGGACCCCTCAGCCTT CTCCTACGCTCCACCTGGTCACCCACTGCCCCTGGGCCTCCATGACACTGCCCGGCCCGTCCTGCCGCCCCACC CACCATCTCCAACCCGCCTCCCCTCATCTCCTCTGCCAAGCACCCCAGCGTCCTCGAGAGGCAAATAGGTGCCAT CTCCCAAGGAATGTCGGTCCAGCTCCACGTCCCGTACTCAGAGCATGCCAAGGCCCCGGTGGGCCCTGTCACCAT GGGGCTGCCCTGCCCATGGACCCCAAAAAGCTGGCACCCTTCAGCGGAGTGAAGCAGGAGCAGCTGTCCCCACG GGGCCAGGCTGGGCCACCGGAGAGCCTGGGGGTGCCCACAGCCCAGGAGGCGTCCGTGCTGAGAGGGACAGCTCT

PCT/US2003/028547

### FIGURE 3856B

GGGCTCAGTTCCGGGCGGAAGCATCACCAAAGGCATTCCCAGCACACGGGTGCCCTCGGACAGCGCCATCACATA  ${\tt CCGCGGCTCCATCACCCACGGCACGCCAGCTGACGTCCTGTACAAGGGCACCATCACCAGGATCATCGGCGAGGA}$ CAGCCCGAGTCGCTTGGACCGCGGCCGGGAGGACAGCCTGCCCAAGGGCCACGTCATCTACGAAGGCAAGAAGGG CCACGTCTTGTCCTATGAGGGTGGCATGTCTGTGACCCAGTGCTCCAAGGAGGACGGCAGAAGCAGCTCAGGACC CCCCCATGAGACGGCCGCCCCAAGCGCACCTATGACATGATGGAGGGCCGCGTGGGCAGAGCCATCTCCTCAGC CATCCGCGGGTCCATCACAAGGGATCCCTCGGTCCTACGTGGAGGCACAGGAGGACTACCTGCGTCGGGAGGC CAAGCTCCTAAAGCGGGAGGGCACGCCTCCGCCCCCACCGCCCTCACGGGACCTGACCGAGGCCTACAAGACGCA GGCCCTGGGCCCCTGAAGCTGAAGCCGGCCCATGAGGGCCTGGTGGCCACGGTGAAGGAGGCGGGCCGCTCCAT CCATGAGATCCCGCGCGAGGAGCTGCGGCACACGCCCGAGCTGCCCCTGGCCCCGCGGCCGCTCAAGGAGGGCTC CATCACGCAGGGCACCCCGCTCAAGTACGACACCGGCGCGTCCACCACTGGCTCCAAAAAAGCACGACGTACGCTC CCTCATCGGCAGCCCCGGCCGGACGTTCCCACCCGTGCACCCGCTGGATGTGATGGCCGACGCCCGGGCACTGGA ACGTGCCTGCTACGAGGAGAGCCTGAAGAGCCGGCCAGGACCGCCAGCAGCTCGGGGGGCTCCATTGCGCGCGG CGCCCGGTCATTGTGCCTGAGCTGGGTAAGCCGCGGCAGAGCCCCCTGACCTATGAGGACCACGGGGCACCCTT TGCCGGCCACCTCCCACGAGGTTCGCCCGTGACCACGCGGGAGCCCACGCCGCGCCTGCAGGAGGGCAGCCTTTC GTCCAGCAAGGCATCCCAGGACCGAAAGCTGACGTCGACGCCTCGTGAGATCGCCAAGTCCCCGCACAGCACCGT GCCCGAGCACCCCACACCCCATCTCGCCCTATGAGCACCTGCTTCGGGGCGTGAGTGGCGTGGACCTGTATCG CAGCCACATCCCCTGGCCTTCGACCCCACCTCCATACCCCGCGGCATCCCTCTGGACGCAGCCGCTGCCTACTA CCTGCCCGACACCTGGCCCCCAACCCCACCTACCCGCACCTGTACCCCACCCTACCTCATCCGCGGCTACCCCGA CACGGCGGCGCTGGAGAACCGGCAGACCATCATCAATGACTACATCACCTCGCAGCAGATGCACCACAACGCGGC CACCGCCATGGCCCAGCGAGCTGATATGCTGAGGGGCCTCTCGCCCCGCGAGTCCTCGCTGGCACTCAACTACGC CCCAGCCACCGCCATGGACCGCCTTGCCTACCTCCCCACCGCGCCCCAGCCCTTCAGCAGCCGCCACAGCAGCTC CCACTCCCATGCCCACCAGCACTCGCCCATCTCCCCTCGGACCCAGGATGCCCTCCAGCAGAGACCCAGTGTGCT TCACAACACAGGCATGAAGGGTATCATCACCGCTGTGGAGCCCAGCACGCCCACGGTCCTGAGGTCCACCTCCAC CTACCCTACCCTCATGGAGCCCGTCTTGCTGCCCAAGGAGGCCCCCCGGGTCGCCCGGGCCAGAGCGGCCCCGAGC AGACACCGGCCATGCCTTCCTCGCCAAGCCCCCAGCCCGCTCCGGGCTGGAGCCCGCCTCCTCCCCCAGCAAGGG CTCGGAGCCCCGGCCCCTAGTGCCTCTGTCTCTGGCCACGCCACCATCGCCCGCACCCCTGCGAAGAACCTCGC ACCTCACCACGCCAGCCCGGACCCGGCGCGCCACCTGCCTCGGCCTCGGACCCGCACCGGGAAAAGACTCAAAG TAAACCCTTTTCCATCCAGGAACTGGAACTCCGTTCTCTGGGTTACCACGGCAGCAGCTACAGCCCCGAAGGGGT GGAGCCCGTCAGCCCTGTGAGCTCACCCAGTCTGACCCACGACAAGGGGCTCCCCAAGCACCTGGAAGAGCTCGA CAAGAGCCACCTGGAGGGGGGGGGCCCCAAGCAGCCAGGCCCCGTGAAGCTTGGCGGGGAGGCCGCCCACCT CCCACACCTGCGGCCGCTGCCTGAGAGCCAGCCCTCGTCCAGCCCGCTGCTCCAGACCGCCCCAGGGGTCAAAGG TCACCAGCGGGTGGTCACCCTGGCCCAGCACATCAGTGAGGTCATCACACAGGACTACACCCGGCACCACCACA GCAGCTCAGCGCACCCCTGCCCGCCCCCCTCTACTCCTTGCGCGGCCAGCTGCCCCGTCCTGGACCTCCGCCG CCCACCCAGTGACCTCTACCTCCCGCCCCGGACCATGGTGCCCCGGCCCGTGGCTCCCCCCACAGCGAAGGGGG CAAGAGGTCTCCAGAGCCAAACAAGACGTCGGTCTTGGGTGGTGGTGAGGACGGTATTGAACCTGTGTCCCCACC GGAGGGCATGACGGAGCCAGGGCACTCCCGGAGTGCTGTTACCCGCTGCTGTACCGGGATGGGGAACAGACGGA CAACTCCGCCATGGTCAAGTCCAAGAAGCAAGAGATCAACAAGAAGCTGAACACCCACAACCGGAATGAGCCTGA ATACAATATCAGCCAGCCTGGGACGGAGATCTTCAATATGCCCGCCATCACCGGAACAGGCCTTATGACCTATAG ATATGACCAGTGGGAAGAGTCCCCGCCGCTCAGCGCCAATGCTTTTAACCCTCTGAATGCCAGTGCCAGCCTGCC CGCTGCTATGCCCATAACCGCTGCTGACGGACGGAGTGACCACACACTCACCTCGCCAGGTGGCGGCGGGAAGGC

### FIGURE 3856C

CAAGGTCTCTGGCAGACCCAGCAGCCGAAAAGCCAAGTCCCCGGCCCCGGGCCTGGCATCTGGGGACCGGCCACC CTCTGTCTCCTCAGTGCACTCGGAGGGAGACTGCAACCGCCGGACGCCGCTCACCAACCGCGTGTGGGAGGACAG  ${\tt GCCCTCGTCCGCAGGTTCCACGCCATTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCTTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTACAACCCCCTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTTGATCATGCGGCTGCAGGCGGGTGTCATGGCTTCCCCTTGATCATGCGGCTGCAGGCGGGGTGTCATGGCTTCCCCTTGATCATGCGGCTGCAGGCGGGGTGTCATGGCTTCCCCTTGATCATGCTGCTGCAGGCGGGGTGTCATGGCTTTCATGGCTTCATGGCTTCATGGCTTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTGTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTCATGGCTTC$ CCCTGAGTCCGCCTGCGCCTCCATCCATCTGTCCGTCCAGAGCCGGCATCCTTGCCTGTCTAAAGCCTTAACTAA GACTCCCGCCCCGGGCTGGCCCTGTGCAGACCTTACTCAGGGGATGTTTACCTGGTGCTCGGGAAGGGAAGGGAAA GATGACCACGCACCTCCACGCCACTGCCTCCCCGAATGCATTTGGAACCAAAGTCTAAACTGAGCTCGCAGCCC CCGCGCCCTCCCTCCGCCTCCCATCCCGCTTAGCGCTCTGGACAGATGGACGCAGGCCCTGTCCAGCCCCCAGTG AAAGGGCCAGGTGCGGCCTGGGGGGAACGGATGCTCCGAGGACTGGACTGTTTTTTTCACACATCGTTGCCGCAG CGGTGGGAAGGAAAGGCAGATGTAAATGATGTGTTTGGTTTACAGGGTATATTTTTGATACCTTCAATGAATTAAT TCAGATGTTTTACGCAAGGAAGGACTTACCCAGTATTACTGCTGCTGTGCTTTTGATCTCTGCTTACCGTTCAAG GTGGTGGTATTCTGTCATTTACACACGTCGTTCTAATTAAAAAGCGAATTATACTCCA

# FIGURE 3858

 ${\tt MAAQGQPQVQFKLVLVGDGGTGKTTFVKHHLTGEFEKKYVATLGVEVHPLVFHTNRGPVKFNVWDTAGLEKFSGLRDGYYIQAQSTIIVFDVTSRVTYKNVPNWHRDLV .}$ 

#### 4185/6881 FIGURE 3859A

CTTGGAAATGACCCGCCACACCTGAAGCCTGCAGGTGCTGAGGCCACATTCGATCAGACCCAAGCTTTGGGAGAC CGCTGGGGAAATTTCCCACTTCCTCTGAGACCAGGAACTCAGCAGAGAAACTTTGTGGAAAATGAACTGAAG GATGCCACCCAGGGAGAGTATCTCCTGAGATCCCATCATGCAGGCCTTCCCACAAGGGCCCGGCAGCATGACAAG GTGAAGGCAGAGTATGTGCATCTCAACCATCCGCTCACCCTCGTGACCAGAGAGCGCGATTTGGCCGTGAAGGAG AAACACCAGCTCCAAGCCAAGCTGGAGAACCTAGAACAGGTCCTGAAGCAT<u>ATG</u>CGAGAGGGCGGCTGAACGGCGG CAGCAGCTGCAGTTGGAGCATGACCAGGCCCTGGCTGTTCTCAGTGCCAAGCAGCAGGAAATTGACCTTCTGCAG AAGTCCAAGGTTCGAGAGCTGGAAGAGAAATGCCGGACTCAAAGTGAGCAGTTCAACCTGCTGTCCCGGGACCTG GAGAAGTTCCGGCAGCACGCTGGCAAGATTGACCTGCTGGGTGGCAGCGCGGTGGCCCCCCTGGACATCTCCACG GGAGGCAGCTCTGCGATCGGTGAATATATCCGGCCCCTTCCGCAGCCTGGTGACAGGCCGGAGCCTCTGTCCGCC AAGCCCACCTTCCTGTCGAGATCCGGTAGCGCAAGATGCAGATCTGAGTCAGACATGGAGAATGAACGGAATTCC AATACCTCCAAGCAGAGATACTCGGGGAAGGTCCACCTCTGTGTTGCCCGCTATAGTTACAACCCCTTCGATGGA CCGAACGAGAACCCCGAAGCTGAGCTGCCCCTCACGGCGGGAAAATACCTCTACGTCTATGGAGACATGGATGAG GATGGGTTCTATGAAGGAGAGCTCCTCGATGGCCAGAGGGGTCTGGTGCCCTCCAACTTCGTGGACTTTGTGCAG GACAACGAGTCGCGGTTGGCAAGCACGCTGGGGAACGAGCAGGATCAGAACTTCATCAACCATTCCGGCATCGGC CTGGAGGGAGACACCTCCGACCCCCAACCCACATAGATGCGGGCATCACCGACAACAGTGCCGGG ACCCTGGACGTGAACATCGACGACATCGGAGAAGACATCGTGCCTTACCCTAGAAAAATCACCCTCATCAAACAA CTCGCCAAAAGTGTTATTGTGGGCTGGGAGCCCCCGGCGGTGCCACCAGGATGGGGAACGGTGAGCAGCTACAAC GTCCTGGTGGACAAGGAGACACGCATGAACCTCACGCTGGGGAGCAGAACTAAAGCCCTCATCGAGAAGCTCAAC ATGGCAGCCTGCACCTACCGCATCTCCGTGCAGTGCGTCACCAGCAGGGGCAGCTCGGATGAGCTGCACTGCACG CTCTCCTGGCTACCCACCAACAGCAACTACAGCCACGTCATCTTCCTCAACGAGGAGGAGTTCGACATCGTCAAG GCCGCCAGGTACAAGTACCAGTTCTTCAATCTCAGGCCCAACATGGCCTATAAGGTGAAGGTTCTGGCCAAACCC CACCAGATGCCGTGGCAGCTCCCGCTGGAGCAAAGGGAGAAGAAGGAGGCCTTTGTGGAGTTCTCCACGTTGCCT GCAGGACCCCCAGCACCCCACAAGATGTTACCGTCCAGGCTGGGGTGACCCCCGCCACCATCCGGGTCTCCTGG AGACCACCTGTGCTGACGCCCACCGGGCTGTCCAATGGCGCAAACGTTACCGGCTACGGCGTGTATGCCAAAGGG CAGAGGGTGGCTGAAGTCATCTTCCCCACGGCAGACAGCCCGGCGGGGGGCTTGTGCGGCTGCGGAGCCTGGAG GCCAAGGGCGTGACCGTGCGGACCCTCTCCGCCCAGGGCGAGTCCGTGGACTCTGCAGTTGCTGCCGTTCCCCCC GAGCTCCTGGTGCCTCCTACCCCCACCCGAGACCTGCACCCCAATCAAAGCCATTAGCAAGTTCTGGAGTCCCC GTGCATGGGCACATGCTGGAGCCGCCGTGGGCCCCGGAAGGCGGTCGCCCTCACCCAGCCGCATCCTGCCACAG CCACAGGGCACCCCGGTGTCCACCACCGTCGCCAAGGCCATGGCCCGGGAGGCCGCGCAGAGGGTGGCCGAGAGC AGCAGGTTAGAGAAAAGGAGCGTCTTCCTAGAGAGAAGCAGCGCGGGGCAGTACGCCGCCTCAGACGAGGAGGAC GCCTATGACTCTCCAGACTTCAAGAGGGGGGGCGCCTCGGTGGACGACTTCCTGAAAGGCTCTGAACTTGGCAAG CAGCCGCACTGTTGCCATGGAGACGAGTACCACACAGAGAGCAGCCGGGGGTCTGACCTCTCAGACATCATGGAG GAGGACGAGGAGGAGCTGTATTCTGAAATGCAGCTGGAAGATGGGGGGAAGGAGGCGGCCCAGCGGCACGTCCCAC AATGCCCTCAAGATTTTAGGGAACCCAGCCTCTGCAGGACGGTGGATCACATGGGCCGGAGGTTTCCCCGTGGC GACTTCTATGAAGAGTCAGAAACTGACCCTGGTGCCGAAGAGCTCCCGGCCCGGATCTTTGTGGCTCTCTTTGAC TACGACCCGCTCACCATGTCCCCAAACCCAGATGCTGCAGAGGAGGAGCTTCCCTTTAAAGAAGGCCAGATCATC AAGGTTTATGGTGATAAAGACGCTGATGGATTCTACCGTGGGGAAACCTGTGCCCGGCTTGGCCTTATTCCTTGT AACATGGTCTCTGAGATACAAGCAGATGATGAGGAGATGATGGATCAGCTTCTTAGACAGGGCTTTCTCCCTCTG AATACACCTGTGGAGAAAATAGAGAGAAGCAGGAGAAGTGGCAGGCGTCATTCGGTATCGACGCGGAGAATGGTG GCCCTGTATGACTACGACCCCAGAGAAAGCTCGCCCAACGTCGATGTCGAGGCCGAACTTACATTTTGCACAGGA GATATTATTACAGTTTTTGGTGAAATTGATGAAGATGGATTTTATTATGGGGAGCTGAATGGGCAGAAAGGCCTT GTGCCCTCAAACTTCTTGGAAGAAGTGCCTGATGACGTAGAAGTCTATCTTTCTGATGCTCCATCCCACTACTCT CAAGATACGCCAATGCGCTCAAAGGCAAAAAGGAAGAAGAGTGTTCATTTCACACCT<u>TAA</u>TCAGGCAATGTAGCC TTCACGTAAGTGAGCAACTGAAGATACCGATAAAGATACCAACTTAAGCTACCTTAACCGGGCCAGTGTGGTAGA

#### 4186/6881 FIGURE 3859B

TAATTAGAATATTACTTGGTCTCAGTTGTAAAGCAACTGAATTTATAGTGAAGCAAATCATCTTTAATAATCATT TCCTACTATTTGCATTAAGAATATTTGAAAGGCCAACATTGGGAACATATTTCTTAACAAGCTAACTGTGTTTT GAAGCTTTACTTTAGAAACTTAACCCAAGGTCAAGCAGATGAGTAGTGAACACAGGTGATCGAGTGTTGGCTCTG AACACTCCAAACACTGGCTCGAGTGGCCAGAACGTGTTTTCCTTAAGTAACCCTGCCTCTACCTTACGAGAGAGC TATGCTCCTCCTCAAAGCACAATCATCCTGTGACAGAAGTTGCTGCAACACGCGTTTGTTGGTGTATACCAATG CAATACTAAGTTGATGAAGCACGCAGCTCAAATGATCACATTAGATGGAATAGATGGTATCTTCAGGTGTACTTT TTACAGCATTTGCCTGCTGAATACTAAACACTCACATGGCAAGAGTTGCTCTGGAGAGGGTAGGGCCAGAGGAATG CTGCTGCACTGCCAACTCAGGCACATGCTTAGCTGTAAAGGGAAGCGAGGTGAAGTCGTCCTGCAGCGTATTAGA GTAAAAGTCTACCCCTCTGAAGCACTATTAAGCGCTTAACGTATATTTAAATACTACCATGTGCTATCTACTGAG CAGGAATGCACTTTAACAATATCAGGATTTTATATAACCAAATAGTTTCAAATACAACAAAATTCCCTTTATGAA  $\tt CTTTCGCTTTTTAAGACTACTGATGGGTACTCGGCCAACTTTACTATCAACCTAATTTCAGATCATGTCTCCCCT$ GCCCTTAGTCTTCATTTATGAAGTGAATTATTACCTGCCTTAGCTTTGCCAAAGCAACGGCCACCCCGCACTCCC TTCTCATGGCATACTTCAACAACTGAAAGAACAAATGAACCCCCCTGACCTTTCCTGGTGGGAAACGGGGACAGT ACGATGTTACCAAGTGAATTCTGTTGTTGGCGCTCACACACTCAATAAACTGTAACACTGTACCTACTAGGTTCC TCCTGAGGGTTCAGGTACAGCAAGGAGAGCTCCATCCCCCACAGTCCATCTCCATTCGGGGTCACCTACGTCATC TATGGGTTCTGGTAGTCCTGGGAGAGGCAGGGAAATGTCCTCGAAAAAGAAAAAGGGGGCTGCTTTCCAAAGGCAA GAAACTGCTGAAAAAGCTGGGTGCAGTGAAATGATTCATGTGCTTCCGGACAACTGCCAAATCTATGTAATTTTC TTTAATTCCAAACTAGGGCTTTCATGACTCAAGTACTTCCTAAAAAAACCCAATCTTCTCCCCTGACACCAGTAG GCTGGCAGTCTGCTCTCATTGTCCAAGCTCTGATTTGGGAGGTGGGAGGGGACGTCTTATTAACAAACGGGGGCG CATAGCTATCACCTGTAGCTCCCTCCCTACCTGTAATTCCAGTCTTTGTGCATTTGTCATCTGCCCTTAAAGGAA TGATTTTCAACCTTTCTCCCTTCTCAAAATGCTTGCCTCATAATGCATAACTTTCACTTTGACTCTGGTCTTGAA ATTCCTAGTTTAATTCGCCTTGATGTTCTGCCTTATAAATGCACAATGATTTGTACTGTCTAATAAAAACAGTGT ATACTTTGTATGTGTCGTGCATTCAGTGGTCTTCATCCTGACACAGTGGTTTGAGATCAAGTTGTACAGGCTGTG AAAGAGAAAAGGAGAGAAAGTAACTTTGTTTGGTAAAGCACCAGTACTCCAACCTTCCAGAAAGCCGATTATCTT CATTGCTTTTAATGTTCTATTCTGTGGCATATGGTTTTCTGTTACTTTCGTTGTCAAAATGCCATACCCAAATAC ACAGCAATGAATGGCACACAAGTAATCCACATAATGCATAAGCCACACAAAACCAGACTCAATTTAAATCTGCT CTTTCTTTTGTAATTTATGGACGGTTTATAAATGAATGACAAAGCTTTCCCCATTGTGTCTTCAAAAACGCTATT ATAAATTGTAATATAATAGTATGTGGTAGATTTATTATAAAGGAAATCCATGTGTGGTTAAGCTCTGTGTGGGT 

MREAAERRQQLQLEHDQALAVLSAKQQEIDLLQKSKVRELEEKCRTQSEQFNLLSRDLEKFRQHAGKIDLLGGSA
VAPLDISTAPSKPFPQFMNGLATSLGKGQESAIGGSSAIGEYIRPLPQPGDRPEPLSAKPTFLSRSGSARCRSES
DMENERNSNTSKQRYSGKVHLCVARYSYNPFDGPNENPEAELPLTAGKYLYVYGDMDEDGFYEGELLDGQRGLVP
SNFVDFVQDNESRLASTLGNEQDQNFINHSGIGLEGEHILDLHSPTHIDAGITDNSAGTLDVNIDDIGEDIVPYP
RKITLIKQLAKSVIVGWEPPAVPPGWGTVSSYNVLVDKETRMNLTLGSRTKALIEKLNMAACTYRISVQCVTSRG
SSDELQCTLLVGKDVVVAPSHLRVDNITQISAQLSWLPTNSNYSHVIFLNEEEFDIVKAARYKYQFFNLRPNMAY
KVKVLAKPHQMPWQLPLEQREKKEAFVEFSTLPAGPPAPPQDVTVQAGVTPATIRVSWRPPVLTPTGLSNGANVT
GYGVYAKGQRVAEVIFPTADSTAVELVRLRSLEAKGVTVRTLSAQGESVDSAVAAVPPELLVPPTPHPRPAPQSK
PLASSGVPETKDEHLGPHARMDEAWEQSRAPGPVHGHMLEPPVGPGRRSPSPSRILPQPQGTPVSTTVAKAMARE
AAQRVAESSRLEKRSVFLERSSAGQYAASDEEDAYDSPDFKRRGASVDDFLKGSELGKQPHCCHGDEYHTESSRG
SDLSDIMEEDEEELYSEMQLEDGGRRRPSGTSHNALKILGNPASAGRVDHMGRRFPRGSAGPQRSRPVTVPSIDD
YGRDRLSPDFYEESETDPGAEELPARIFVALFDYDPLTMSPNPDAAEEELPFKEGQIIKVYGDKDADGFYRGETC
ARLGLIPCNMVSEIQADDEEMMDQLLRQGFLPLNTPVEKIERSRRSGRRHSVSTRRMVALYDYDPRESSPNVDVE
AELTFCTGDIITVFGEIDEDGFYYGELNGQKGLVPSNFLEEVPDDVEVYLSDAPSHYSQDTPMRSKAKRKKSVHF

GGCGGTGTTGAGGTTGGGTACGGGATGCGGGGTCTTTGACTGAAGGGGTAGGCCAAGTGGAGGTATCAGGGACGT CGCGCGCACAGAAGAGGACCAGCCTGGACGCCGGGGACGCTGTCATGTACGGCGCGAGCGGGGGCCGCCCAAA CCCGAGAGGAAAAGCGGCGCGAAGGAGGAGGCCGGGCCAGGCGGTGCCGGCGGTGGGGGCAGCCGAGTGGAGCTC TTGGTTTTCGGCTATGCCTGCAAGCTGTTCCGGGACGACGAGCGGGCCCTGGCTCAGGAACAGGGACAGCACCTC ATCCCCTGGATGGGGGACCACAAGATCCTCATCGACAGATATGATGGACGTGGTCACCTGCATGACCTTTCTGAG TACGATGCTGAGTATTCCACGTGGAACAGAGATTATCAGCTGTCTGAAGAGGAGGCGCGAATAGAGGCCCTGTGT TTGAGTGAAGCACTAGCAGAGGATGGGAGCTACAATGCCGTGGGGTTCACTTACGGTAGCGACTATTACGACCCG TCAGAGCCGACGGAGGAGGAGGAGCCTTCCAAACAGAGAGAAAAAAATGAGGCCGAAAATTTAGAGGAAAATGAA GAGCCCTTCGTTGCCCCCTTAGGATTGAGCGTCCCGTCTGACGTGGAGTTGCCACCAACCGCTAAAATGCACGCC ATCATCGAGCGCACGCCAGCTTCGTGTGCAGGCAGGGAGCACAGTTTGAGATCATGCTGAAGGCCAAGCAGGCC CGGAACTCCCAGTTTGACTTTCTGCGCTTCGACCACTACCTCAACCCCTACTATAAGTTCATCCAGAAAGCCATG GAAGAGCTGATGAAGCCCTTGAAGGTAGTGGACCCAGATCATCCCCTCGCAGCACTTGTTCGTAAGGCACAGGCT GACAGTTCCACTCCCACCCCACACACGCAGACGGTGCGCCTGTGCAGCCCTCCCAGGTGGAGTACACGGCAGAC GAATCGACGTGACTACTTACTACAGCACCCTTCCTGCTGGCGTGACCGTGTCTAACTCCCCTGGAGTGACGACCA CCGCCCCACCACCTCCTGGGACCACCACCACCACCACCACCACCAGAGACTAGCAGCGGGGCCACCTCCA CAACCACCACCACAAGTGCACTTGCCCCCGTGGCCGCCATCATCCCCCCCGCCCCCGACGTCCAGCCCGTGATTG ACAAGCTGGCCGAGTATGTCGCCAGGAACGGCCTGAAGTTCGAGACCAGTGTTCGTGCCAAGAATGATCAAAGAT GGGGCGATAGCATGCAGGCTGTGTCTGCACCAGAAGAGGCTCCCACAGACTCTGCTCCCGAGAAGCCAAGTGATG CGTCCAGTAAGACCGTCCCGGACGGGAAGCTGGTGAAAGCTTCCTTTGCTCCAATAAGCTTTGCAATCAAGGCCA AAGAAAATGATCTGCTTCCCCTGGAAAAAAATCGTGTTAAGCTAGATGATGACAGTGATGATGATGAAGAAAAAACCA AAGAAGGCCAAGAAAGTTCTAGTAGTGCTGCAAACACTAACCCAGCAGTTGCCCCACCCTGTGTAGTTGTTGAGG AGAAGAAGCCTCAACTTACCCAGGAGGAGCTAGAAGCAAAGCAAAGCAAAAGCTGGAAGATCGCCTCGCAG CTGCTGCCCGGGAAAAGCTGGCCCAGGCGTCTAAGGAGTCAAAAGAGAAACAGCTTCAAGCAGAACGTAAAAGGA AAGCGGCGTTATTTTTACAGACCCTCAAAAATCCTCTGCCGGAAGCAGAAGCTGGGAAAATTGAGGAGAGTCCTT TCAGTGTCGAGG

 $\verb|MLPVSVCRLATQLLHQYPILSSTGTNESWPCLWRRITPSHSLKRSRPSWLIHLPLWLL'PLWLLPPQLLLLLLQPQ|\\ LRLKPRKSRRSRTRIWDLVSLTNHQKATNLASFICKTRK|$ 

#### 4191/6881 FIGURE 3864A

AGCCCTGTCTGGTGCATCCTTGGCAGAAAGTGAGGAGGAAAACACCCCCATTGTTAGATGAGGTCTTAATCATGG AACATTTGAAGTCACGTAAAGAAGGTTCTTTGGCATGCACACAAGTTCAGTGGGAGGATTAGAATTGACTGATCA GACTCCTGTTTTATTAGGGAGTACGGCCATGGCAACTAGTCTCACGAATGTAGGAAACTCATTTAGTGGTCCAGC TAATCCTTTAGTGTCTAGATCTAATAAGTTTCAGAACTCGTCAGTGGAAGATGATGATGATGTTTTTTATCGA ACCTGTACAACCTCCCCCACCTTCTGTACCAGTGGTAGCTGATCAAAGAACCATAACATTTACATCATAAAAAAA TGAGACAATTGTCATTGATGAAGAGAGACATGGAAACAAATCAAGGGCAAGAGAAAAATTCCTCCAATTTTAT TGAACGAAGACCTCCTGAGACTAAAAACAGAACCAATGATGTGGATTTCTCCACTTCCAGTTTTTCAAGAAGTAA GGTAAATGCAGGAATGGGTAATAGTGGTATCACCACAGAACCAGACTCTGAAATTCAGATTGCTAATGTTACAAC TTTAGAAACAGGTGTAAGCTCTGTGAATGATGGCCAATTAGAAAATACTGACGGGCGAGATATGAACTTAATGAT TACACATGTAACATCACTGCAGAATACCAACTTGGGAGATGTCTCTAACGGACTGCAGTCAAGTAATTTTGGTGT TAATATACAAACATACACCCCATCTTTAACTTCACAGACCAAGACTGGAGTAGGACCTTTTAATCCTGGTAGAAT GAATGTGGCAGGAGACGTTTTTCAGAATGGAGAATCTGCAACTCATCATAATCCTGATTCTTGGATCTCCCAGTC AGCTTCATTTCCCCGTAATCAGAAACAACCAGGGGTGGACTCTTTATCACCAGTGGCCTCACTTCCŢAAACAGAT TTTCCAGCCGTCTGTCCAACAGCAGCCTACTAAACCAGTTAAAGTCACTTGTGCAAACTGCAAAAAACCTTTACA GAAGGGCCAGACAGCTTATCAACGAAAAGGATCAGCTCACCTCTTTTGTTCTACCACCTGCCTTTCTTCTTCTTCTTCTT CCACAAGCCTGCTCCAAAGAAACTCTGTGTTATGTGTAAAAAAAGATATAACTACAATGAAAGGAACCATTGTTGC TCAAGTGGATTCAAGTGAGTCCTTCCAGGAATTCTGTAGTACATCTTGTTTATCTCTCTATGAAGACAAACAGAA CTTTAAAAATATGACTCATAAGCTGTGCAGTGACCACTGCTTTAATAGATATAGAATGGCCAATGGTTTAATAAT GGTTCGAGATCACATGCAGGACTCTTTCTTAATGCAGCCTGAGAAATATGGAAAACTGACAACTTGTACTGGTTG CCGAACACAGTGCAGGTTTTTTGATATGACTCAGTGTATAGGTCCTAATGGATATATGGAGCCATATTGTTCAAC TGCTTGTATGAACAGTCACAAGACAAAATATGCAAAATCACAAAGTTTGGGAATTATTTGCCATTTTTGTAAGCG AAACTCTTTACCTCAATACCAAGCCACAATGCCTGATGGAAAACTGTACAACTTTTGCAATTCCAGTTGTGTGGC TAAATTTCAGGCTCTAAGTATGCAGTCATCTCCAAATGGCCAGTTTGTAGCGCCAAGTGATATTCAGTTGAAATG CAACTACTGCAAAAATTCCTTTTGTTCAAAACCAGAAATCCTGGAATGGGAGAACAAAGTGCATCAGTTCTGCAG TCTTCATGAAACAGTAAATTTCTCTGGCGTTAAGAGACCTTTCTGTAGTGAAGGCTGCAAATTATTATACAAACA GGATTTTGCCAGACGTTTAGGATTGAGATGTGTTACTTGCAACTATTGTTCTCAGCTATGTAAGAAGGGAGCAAC TAAAGAACTCGATGGTGTTGTGAGAGATTTCTGCAGTGAAGATTGCTGTAAAAAATTTCAGGATTGGTACTACAA GGCTGCAAGGTGTGACTGTTGTAAATCTCAAGGAACTCTTAAAGAGCGAGTTCAGTGGCGTGGGGAAATGAAACA TTTCTGTGATCAACATTGCTTACTGCGTTTCTACTGTCAACAAAATGAGCCCAACATGACAACTCAGAAAAGGACC TGAAAACTTACATTATGATCAGGGTTGTCAGACATCTCGAACCAAAATGACAGGTTCAGCACCACCCCCTTCTCC ACCTCACATGCAGACCAAATCTTGTCAGACAGATGATACTTGGAGGACAGAATATGTTCCAGTGCCTATCCCTGT GCCTGTGTATATCCCAGTTCCTATGCACATGTACAGTCAGAATATTCCTGTTCCTACTACAGTTCCTGTTCCTGT GCCAGTTCCTGTTTTTCTGCCTGCTCCATTGGACAGCAGTGAGAAGATTCCTGCAGCAATTGAGGAGCTAAAAAG CAAGGTTTCTTCAGATGCTCTTGATACAGAGTTGCTTACAATGACGGATATGATGAGGTGAAGACGAGGGGAAAAC AGAGACAACCAACATCAACAGTGTAATTATTGAAACAGATATAATTGGTTCAGACCTTTTGAAGAACTCTGACCC AGAGACACAGTCCAGCATGCCTGATGTACCATATGAACCAGATTTGGATATCGAAATAGATTTCCCAGAGCTGC TGAGGAGCTTGATATGGAAAATGAATTTTTATTACCACCTGTTTTTGGCGAAGAATATGAGGAACAGCCCAGACC TCGATCTAAAAAAAAGGGAGCCAAGAGAAAGGCTGTATCAGGATACCAGTCTCATGATGATAGTTCTGACAATTC AGAATGCAGCTTTCCTTTCAAATATACGTATGGCGTAAATGCATGGAAACACTGGGTCAAAACTAGGCAACTTGA TGAAGATCTTCTGGTATTAGATGAGTTAAAATCTTCTAAATCAGTAAAGTTAAAAGAGGATCTACTCTCTCACAC CACAGCTGAGCTTAACTATGGGTTAGCTCATTTTGTCAATGAGATCCGACGGCCAAATGGAGAGAATTATGCACC

# FIGURE 3864B

TGACAGCATCTATTACCTTTGCCTTGGAATACAGGAGTATTTGTGTGGAAGTAATCGAAAAGACAACATATTTAT TGATCCTGGATACCAAACATTTGAGCAAGAATTGAATAAAATACTGCGAAGCTGGCAACCAAGCATACTTCCAGA TGGGTCAATATTCTCTCGAGTTGAAGAAGACTATCTCTGGAGGATAAAACAACTAGGATCACACTCTCCAGTAGC TCTTCTGAATACACTGTTCTACTTTAACACTAAGTATTTTGGCCTGAAAACAGTGGAACAACACTTAAGACTTTC CTTTGGCACTGTGTTTAGGCATTGGAAAAAAATCCTTTAACGATGGAAAACAAAGCGTGTCTTCGATACCAAGT GTCTTCCTTGTGTGGAACAGATAATGAAGATAAAATTACTACTGGAAAAAGAAAACATGAAGATGATGAGCCAGT ATTTGAACAAATTGAAAACACAGCCAATCCTTCCAGATGTCCTGTGAAAATGTTTGAATGCTACTTGTCTAAAAG TCCACAGAATCTTAATCAGAGGATGGATGTTTTTTATTTGCAACCAGAATGCTCTAGTTCTACAGATAGCCCTGT CTGGTATACGTCTACTTCACTGGACCGAAACACCTTGGAAAATATGCTTGTACGGGTTCTTCTAGTAAAAGATAT  $\verb|TTATGATAAAGACAATTATGAACTGGATGAAGACACAGAC| \\ \hline \textbf{TAAAAAAGGAACGTTGCAGAAGCAATCGGGATAAAA} \\ \\ \textbf{TTATGATAAAGACAATTATGAACTGGATGAAGACACAGAC<math>\textbf{TAA}$ AAAGGAACGTTGCAGAAGCAATCGGGATAAAA CAGCATTAGATAGTCATGCTGCTAGATCTTTATTATGGAAAACATTTCAAGTTTACTCCTTCTGTTTTGAGTTTT ACTCTACTGTTGCAAAGCTTCCTTGGAAGGGGGCTCTTTTACTGGGTTCTTAACCAGATGGTTGTGTATGGGTAG CACTACTAAAAGTTTAGAACTTGCAGTGTCTTTCGGAATTTTTAAAATAAACTGTAAACTAATAGGCTGGGGTTT TTGTTTTGTTTTGGGGTTTTGTTTTGTTTTGGTTTTACATTTTAGTTACTGAAGCCTTACAAGGTTATGTAGAGAG ATACCATCTTCTGTACCAAAAATAGACAAGAGAATGCTGTCAATATTGGTGTACTGTAATGTGAATCTATGCTGG TGAAAACAATTTTTTGTTCCCCTTATTAAAACCTTAGTGTCCTTTTCTCATTTGTGGCTTTCTGCATCACCCAAT CAATAAAAAACAAATATATATATGT

 ${\tt MDTSSVGGLELTDQTPVLLGSTAMATSLTNVGNSFSGPANPLVSRSNKFQNSSVEDDDDVVFIEPVQPPPPSVPV}$ VADQRTITFTSSKNEELQGNDSKITPSSKELASQKGSVSETIVIDDEEDMETNQGQEKNSSNFIERRPPETKNRT NDVDFSTSSFSRSKVNAGMGNSGITTEPDSEIQIANVTTLETGVSSVNDGQLENTDGRDMNLMITHVTSLQNTNL GDVSNGLQSSNFGVNIQTYTPSLTSQTKTGVGPFNPGRMNVAGDVFQNGESATHHNPDSWISQSASFPRNQKQPG VDSLSPVASLPKQIFQPSVQQQPTKPVKVTCANCKKPLQKGQTAYQRKGSAHLFCSTTCLSSFSHKPAPKKLCVM  $\tt CKKDITTMKGTIVAQVDSSESFQEFCSTSCLSLYEDKQNPTKGALNKSRCTICGKLTEIRHEVSFKNMTHKLCSD$ HCFNRYRMANGLIMNCCEQCGEYLPSKGAGNNVLVIDGQQKRFCCQSCVSEYKQVGSHPSFLKEVRDHMQDSFLM  $\tt QPEKYGKLTTCTGCRTQCRFFDMTQCIGPNGYMEPYCSTACMNSHKTKYAKSQSLGIICHFCKRNSLPQYQATMP$ DGKLYNFCNSSCVAKFQALSMQSSPNGQFVAPSDIQLKCNYCKNSFCSKPEILEWENKVHQFCSKTCSDDYKKLH CIVTYCEYCQEEKTLHETVNFSGVKRPFCSEGCKLLYKQDFARRLGLRCVTCNYCSQLCKKGATKELDGVVRDFC SEDCCKKFQDWYYKAARCDCCKSQGTLKERVQWRGEMKHFCDQHCLLRFYCQQNEPNMTTQKGPENLHYDQGCQT SRTKMTGSAPPPSPTPNKEMKNKAVLCKPLTMTKATYCKPHMQTKSCQTDDTWRTEYVPVPIPVPVYIPVPMHMY SQNIPVPTTVPVPVPVPVFLPAPLDSSEKIPAAIEELKSKVSSDALDTELLTMTDMMSEDEGKTETTNINSVIIE TDIIGSDLLKNSDPETQSSMPDVPYEPDLDIEIDFPRAAEELDMENEFLLPPVFGEEYEEQPRPRSKKKGAKRKA VSGYQSHDDSSDNSECSFPFKYTYGVNAWKHWVKTRQLDEDLLVLDELKSSKSVKLKEDLLSHTTAELNYGLAHF VNEIRRPNGENYAPDSIYYLCLGIQEYLCGSNRKDNIFIDPGYQTFEQELNKILRSWQPSILPDGSIFSRVEEDY LWRIKQLGSHSPVALLNTLFYFNTKYFGLKTVEQHLRLSFGTVFRHWKKNPLTMENKACLRYQVSSLCGTDNEDK ITTGKRKHEDDEPVFEQIENTANPSRCPVKMFECYLSKSPQNLNQRMDVFYLQPECSSSTDSPVWYTSTSLDRNT LENMLVRVLLVKDIYDKDNYELDEDTD

MDWGTLQTILGGVNKHSTSIGKIWLTVLFIFRIMILVVAAKEVWGDEQADFVCNTLQPGCKNVCYDHYFPISHIR LWALQLIFVSSPALLVAMHVAYRRHEKKRKFIKGEIKSEFKDIEEIKTQKVRIEGSLWWTYTSSIFFRVIFEAAF MYVFYVMYDGFSMQRLVKCNAWPCPNTVDCFVSRPTEKTVFTVFMIAVSGICILLNVTELCYLLIRYCSGKSKKP

ATGGAACAGTACATCTATAAAAGGAAAAGTGATGGCATCTATATCATAAATCTGAAGAAGACCTGGGAGAAGCTT
CTGCTGGCAGCTCGTGCTATTGTTGCCATTGAAAAACCCTGCTGATGTCAGTGTTATATCCTCCAGGAATACTGGC
CAGAGGGCTGTGCTGAAGTTTGCTGCGGCCACTGGAGCCACTCCAATTGCTGGCCGCTTCACTCCTGGAACCTTC
ACTAACCAGATCCAGGCAGCCTTCCGGGAGCCACGGCTTCTTGTGGTTACTGACCCCAGGGCTGACCCACCAGCC
TCTCACGGAGGCGTCTTATGTTAACCTACCTACCATTGCTCTGTGTAACAGATTCTCCTCTGCGCTATGTGGACA
TTGCCATCCCATGCAACAACAAGGGAGCTCGCTCAGTGGGTTTGATGTGGTGGATGCTGGCTCGGGAAGTTCTGC
GCATGCGTGGCACCATTTCTCGTGAACACCCATGGGAGGTCATGACTGATCTCTACTTCTACAGAGATCCTGAAG
AGATGGGTGAATGGACTGCTCCAGCTCCTGAGTTCACTGCAGCCTGAGGTTGCAGACTGGTCTGAAGGTG
TGCAGGTGCCCTCTGTGCCTATTCAGCAGTTCCCTACTGAAGACTGGACCTCCACCGGAAGACTGGT
CTGCAGCTCCC

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 ${\tt MEQYIYKRKSDGIYIINLKKTWEKLLLAARAIVAIENPADVSVISSRNTGQRAVLKFAAATGATPIAGRFTPGTF} \\ {\tt TNQIQAAFREPRLLVVTDPRADPPASHGGVLC}$ 

GCGGCAGGTGAGTAGCTGTGCGAATTCGGTTCTCTAGGGAACTCCTTCTTCGCCTGGCCTTACCTGGGCTCC  $\tt CCGCTTCTCTGGAGGGGAGGCGGTGCGGGAACTCCCGTAGGCGTGAGCTGGAGCGCGCCCGCTGCTCTCTCCA$ GGTCCCGCCGCCAGTTCGCCTCCGCAAAGCCCGTCCCTCTCTTCCGCAGGCACC<u>ATG</u>TTCCTGACTGCGCTCC TCTGGCGCGGCCGCATTCCCGGCCGTCAGTGGATCGGGAAGCACCGGCGGCCGCGGTTCGTGTCGTTGCGCGCCA AGCAGAACATGATCCGCCGCCTGGAGATCGAGGCGGAGAACCATTACTGGCTGAGCATGCCCTACATGACCCGGG AGCAGGAGCGCGCCACGCCGCGGTGCGCAGGAGGGAGGCCTTCGAGGCCATAAAGGCCGCCGCCACTTCCAAGT  ${\tt TCCCCCGCATAGATTCATTGCGGACCAGCTCGACCATCTCAATGTCACCAAGAAATGGTCC{\tt TAA}{\tt TCCTGAGTCG}$ TCACCCTTGGATTTTATGGATCACGGAGCTGACCATCTTTACCTGGTCCTGGAACTGAAAAACTGTAGCTTGTGT TAAACCCCCCAATACTTAAAAGTCTAATTGCTGTCCTGTGGTTTCATTAGTCTGATAGGAAGATAGGGATTTCCT CAGTCACAGATGATATTTTGAAGGAAAGCTGCAATAAAGCCACAATGATTTGAGGTCTTTGCTTAAGTATGAGAT ACTTGATGGGGGCTTTATCATGCAACATTAGTTTGCTTACCTTAAGAATTGCCCCAAAAATGAAAAAAATATGAG CTTTTCAGTTAAACATACTCCTAAAAACATTTTCCGGGATTTTACTACTAAAATTGGACATTTAAGCGAAGTAAA GGTGCAGGCTTGCAATCCCAGCTACTTGGGACGCTGAGGTGGGAGGATCGCCTGAACCTCAGAGGCAGAGGTTGC AATGAAGCGGAGGTTGCAGTGAGCCGAGAGCATGCCGCTGCACTCCAGCCTGGGAGACTGCATCTCAAAAAAAGAA 

 ${\tt MFLTALLWRGRIPGRQWIGKHRRPRFVSLRAKQNMIRRLEIEAENHYWLSMPYMTREQERGHAAVRRREAFEAIK} \\ {\tt AAATSKFPPHRFIADQLDHLNVTKKWS}$ 

MFSSSAKIVKPNDEKPDEFESGISQALLELEMNSDLKAQLRELNITAAKEIELGGGRKAIIIFVPIPQLKSFQKI QVRLVRELEKKFSGKHVVFIVQRRILPKPTRKSRTKNKQKRPRSHTLTAVHDAILEDLVFPSEIVGKRIRVKLDG SRLIKVHLDKAQQNNVEHKVETFSGVYKKLTGKDVNFEFPEFQL

GCCTGCGGGCAGCCGTGCCGAGAATGAACCCCAGCACCCCCAGCTACCCAACGGCCTCGCTCTACGTGGGGGACC TCCACCCGACGTGACTGAGGCGATGCTCTACGAGAAGTTCAGCCCGGCAGGGCCCATCCTCCCATCCGGATCT GCAGGGACTTGATCACCAGCGGCTCCTCCAACTACGCGTATGTGAACTTCCAGCATACGAAGGACGCGGAGCATG TTCGAAAAAGTGGAGTGGGCAACATATTCGTTAAAAATCTGGATAAGTCCATTAATAATAAAGCACTGTATGATA  ${\tt CAGTTTCTGCTTTTGGTAACATCCTTTCGTGTAACGTGGTTTGTGATGAAAATGGTTCCAAGGGTTATGGATTTG}$ TACACTTTGAGACACCAAGCAGCTGAAAGAGCTATTAAAAAAATGAACGGAATGCTCCTAAATGGTCGCAAAG TATTTGTTGGACAATTTAAGTCTCGTAAAGAACGAGAAGCTGAACTTGGAGCTAGGGCAAAAGAGTTCCCCAATG TTTACATCAAGAATTTTGGAGAAGACATGGATGATGAGCGCCTTAAGGATCTCTTTGGCAAGTTCGGGCCCGCCT TAAGTGTGAAAGTAATGACCGATGAAAGTGGAAAATCCAAAGGATTTGGATTTGTAAGCTTTGAAAGGCATGAAG ATGCACAGAAAGCTGTAGATGAGTGAATGGAAAGGAGCTCAATGGAAAACAAATTTACGTTGGTCGAGCTCAGA AAAAAGTGGAACGGCAGACGGAACTTAAGCGCACATTTGAACAGATGAAGCAAGATAGGATCACCAGATACCAGG TTGTTAATCTTTATGTGAAAAATCTTGATGATGGTATTGATGATGAACGTCTCCGGAAAGCGTTTTCTCCATTTG GTACAATCACTAGTGCAAAGGTTATGATGGAAGGTGGTCGCAGCAAAGGGTTTGGTTTTGTATGTTTCTCCTCCC CTCAGCGCAAAGAAGAGCGCCAGGCTTACCTCACTAACGAGTATATGCAGAGAATGGCAAGTGTACGAGCTGTGC CCAACCAGCGAGCACCTCCTTCAGGTTACTTCATGACAGCTGTCCCACAGACTCAGAACCATGCTGCATACTATC CTCCTAGCCAAATTGCTCGACTAAGACCAAGTCCTCGCTGGACTGCTCAGGGTGCCAGACCTCATCCAAA ATAAGCCCAGTGCTATCCGCCCAGGTGCTCCTAGAGTACCATTTAGTACTATGAGACCAGCTTCTTCACAGGTTC CTGCTGCAGCTACCCCTGCTGTGCGCACGGTTCCACGGTATAAATATGCTGCGGGAGTTCGCAATCCTCAGCAAC ATCGTAATGCACAGCCACAAGTTACAATGCAACAGCTTGCTGTTCATGTACAAGGTCAGGAAACTTTGACTGCCT CCAGGTTGGCATCTGCCCCTCCAAAAGCAAAAGCAAATGTTAGGTGAACGGCTCTTTCCTCTTATTCAAGCCA TGCACCCTACTCTTGCTGGGAAAATCACTGGCATGTTGTTGGAGATTGATAATTCAGAACTTCTTTATATGCTCG AGTCTCCAGAGTCACTCCGTTCTAAGGTTGATGAAGCTGTAGCTGTACTACAAGCCCACCAAGCTAAAGAGGCTA CCCAGAAAGCAGTTAACAGTGCTACCGGTGTTCCAACTGTTTAAAATTGATCAGAGACCACGAAAAGAAATTTGT AAAATCTAAAATAAAAAATGGAAAGGAAACTTTGAACCTTATGTACCGAGCAAATGCAAGGTCTAGCAAATATAA TAAAATACAAAAACCAGTTAATGTTTTGTAGACCCTGGGAAAAGAATTTTCAGCAAAGTACAAAAATTTAAAGCA TTCCTTTAATTTTTTAATTCTTTACTGTGGAATAGCTCAAAATGTCCATTCTGTTTTAAGTAACAGAATTGATAA CTGAGCAAGGAAACATGGTTTGGATTATAAAATTCTTGCTTTAATAAAATTTCTTAAACAGTGAAA

#### 4206/6881 FIGURE 3878A

 ${\tt GGCTTTGAGGCGAGAGAAGTGTCCCAGACCCATTTCGCCTTGCTGACGGCGTCGAGCCCTGGCCAGAC} {\color{red} \underline{\textbf{ATG}}} {\color{blue} \textbf{ICCA}} {\color{blue} \textbf{CCATTTCGCCTTGCTGACGGCGTCGAGCCCTGGCCAGAC} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \textbf{CCA}} {\color{blue} \textbf{CCATTTCGCCTTGCTGACGGCGTCGAGCCCTGGCCAGAC} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \textbf{CCATTGCTGACGGCGTCGAGCCCTGGCCAGAC} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \textbf{CCATTGCTGACGGCGTCGAGCCCTGGCCAGAC} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \textbf{CCATTGCTGACGGCGTCGAGCCCTGGCCAGAC} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \textbf{CCATTGCTGACGGCGTCGAGCCCTGGCCCAGAC} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \textbf{CCATTGCTGACGGCGTCGAGCCCTGGCCAGAC} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \underline{\textbf{ATG}}}} {\color{blue} \underline{\textbf{ATG}}} {\color{blue} \underline{\textbf{ATG}}$ CAGGGTTCTCCTTCGGGTCCGGGACTCTGGGCTCCACCACCGTGGCCGCCGGCGGACCACCACAGGCGGCGTTT TCTCCTTCGGAACGGGAGCGTCTAGCAACCCTTCTGTGGGGGCTCAATTTTGGAAATCTTGGAAGTACTTCAACTC CAGCAACTACATCTGCTCCTTCAAGTGGTTTTTGGAACCGGGCTCTTTTGGATCTAAACCTGCCACTGGGTTCACTC CAGCTACAACAGGCTTCAGTTTAGGATTCAATAAACCTGCAGCATCTGCCACACCATTTGCTCTACCTATTACCT CTACCTCAGCTAGCGGTCTGACTCTTTCGTCTGCTCTGACATCAACTCCAGCAGCATCCACAGGATTTACTCTAA ATAATTTGGGTGGGACAACAGCCACAACTACAACTGCATCAACAGGCCTCTCTTTAGGGGGGAGCCTTAGCTGGTT TGGGAGGTTCACTTTTCCAGAGTACAAACACAGGAACATCAGGACTTGGACAGAATGCTTTAGGGTTGACTTTGG GAACTACAGCAGCTACTTCAACTGCAGGCAATGAAGGCCTTGGTGGTATAGATTTCAGTAGCTCCTCAGATAAAA AGAGTGATAAAACGGGAACAAGACCAGAGGATAGTAAAGCTCTGAAGGATGAAAATCTACCTCCTGTCATCTGCC AGGATGTTGAAAATCTCCAGAAATTTGTGAAGGAGCAGAAACAAGTTCAAGAAGAAATTAGTAGAATGTCTTCAA AAGCAATGCTTAAGGTACAAGAAGATATTAAAGCTCTGAAGCAGCTCCTGTCGTTGGCTGCCAATGGAATACAGA GAAACACTCTCAACATTGACAAATTGAAAATAGAAACTGCTCAGGAGTTGAAGAATGCTGAAATAGCTTTAAGAA CCCAGAAGACACCACCTGGACTTCAACATGAATATGCAGCTCCTGCTGACTACTTCAGAATCTTGGTTCAGCAAT TTGAGGTACAGCTTCAGCAGTACAGGCAGCAGATTGAAGAACTAGAAAACCATCTTGCCACTCAAGCAAATAATT CACATATAACCCCTCAAGATTTGTCAATGGCTATGCAGAAAATTTATCAAACATTTGTAGCTTTAGCGGCACAAC TTCAGTCTATTCATGAAAATGTAAAGGTTCTGAAAGAACAGTACCTTGGCTACAGGAAAATGTTCTTGGGAGATG CTGTTGATGTGTTTGAAACAAGGCGAGCAGAAGCCAAGAAGTGGCAGAACACCCCAGAGTTACTACTGGACCCA CTCCTTTCAGCACCATGCCAAACGCAGCCGTTGCCATGGCTGCAACACTTACACAGCAGCAACAGCCTGCTA  $\texttt{CAGGTCTGAACGCATTCAAGTTA} \underline{\textbf{TAGC}} \texttt{CTTCTTACTGTTCCAATGCAGAACATTTATGTGCGTTTTTATAAGTCTT}$ CCATTTGTGTGAGCACTGAAGAAATTTCTATGAGTAGCTGTTCCAATACAATCTAAAATTGTGATGGACACGATT ATAAACATACCTGATAAAAAAGGCAGGGTAGTCTTAGCAATAATTATACATCAATTAGATATTGAATATTGTGAA TCTACTTAATGTTATTTGCTGTAATGCTATAAATGCCCTTTAGAACATGGTGTTTCACTAGTGAATTACATTTAA AAACAGAATACAAGCCCTCTAAACCAAATTTTGAAGATGATACATGCTAGAATTGTACCTTTCCAAGGTGAACAG  ${\tt AACAGCAAGAGCAGGAAAAAGATGTTTTGAGATGTGGATTGCACATTAAGGAGCAACTGGGAAGTTGAACAGATG}$ AAAATAATTGGTGACATGGAAAGCAGATTGTTTTATTTCTTGGTTTAGTTACACTTCTAATTAGAGAAACCATTTT TTGTGGTCATTCTACAGTGTTTTATTTGGTCCTGTGTCTTTCGGAGGTTAATAGTTATCTTAATCCTGCCATCCC ATTTCTTAGTAATGCTTACTATTCAATAGCATGTGTCTTTCTGAGAGTTCCATATAGTCCAGTAGTACATTATAA TACACACAAATTAATACATATTTAGATTGCATTCAAGCTACCTATACTAGGGAAGCATTCTCTGGTTTTCACTAT TGGCAGTTTAAAAAATTGTTCTTCACATTTGGAGATGACAGAATTGACTTGCCATAAGTAAAGGGTTGATGATAG ATTTATGCCAAATCCTCCATATCCCGTGGCTGGACCCATGTGAATAGTGGCTCGCACGAGCACTGTCTGGTAGCT AGGATTGATATTTCTTCTTAAAAGGATTCAATCCCATAATTATGACCATCAGCTCTCATGATTACCTAACCAGTT AATCAAACCAACCATAGTACTAGTTTACTTTTTAGAGCCAGTATTAATCCTAAAGTAGATAAGTGTAGATTTGGT TAAGTGTTCTTTAAACATAGTGAATTTCCATTCTATTAAATAGAACTTGAGAAATGTCAGTTATATAAAAAGTTA TGTGTGTTTAACTTTCTTATCTATAGATTATTATTTTGAGAAATTCATAGGTTTTCACTTATACATTTTGAGCTT GTGGACATATGGAGATGTGTTCATTCTCTAAATGAGTGCCTACTATGTGCTGGGCTCGAGGAATACAAAGGTA GACAATATAGATTTTGTCTTTGCCCTCTGTGGTGGTTGACAATGTTAGCTTAATCTGGAGTATTCTTGAGGAGCC TTTTGCTCATAGGCTTTAATTTTGTCTGTGACTTTTGCCAGGCTTTGGGGAAATTGACTGCCTTCACTCTTCCCT GAAACTTTGAAGTCCACATAAGGGCTTTCTCATCAGATGGCAGAAATTATAATTTATTAACCTAAACAACCTTAC AGTGTTTTCGCTTTGAATTGTATGAATTCTTAGAACTGAGAAGCTAAACAACAGTGATAACAATTTTACATTATC

#### 4207/6881 FIGURE 3878B

TTTTCTTCTCCTTTTGTTTCTCTAAAGGTCTCCCAGGCCTTCCCAGTCAAAATTTTCGTTATTTTTAGTCATGT CACCATGATGTGAGATTTCTGAGCTCTGTTAGATACATTTAGAAATGTCCCTATTTATCAAATGGTGTTTTGTAC CCCATAAGTTATCCCTTATGCCCTGTGACTTCTGTGAAATCTTTGTTTTTAAGTGCCAGTAACAAATTTTAGACC ATCTAGATGAGGGTAGAGAGCTTATGCATTGTTTTTATACATCACTGTTGATCTATACAAGATTTGAGTTATC AGAAGGGTTTTGCTTTTATTTGCATATGAAATTTTTATTAACATGAATATGGGCACAGAGCAAATAGCTTCTTAG ACTGCTGCCTTCTGAAGGTGGCTTCTGTATCTTTCTCAGAGGAGGAGGAATAGACTTAAACGACTTCTTTGTCCT CCTTCAATTTTTTTTTAATGAAAAGTATACTAGGGCTTAGGCATGTGTGATTTACAGTTATTTGTTCTGAAGG CTGCAGAGAATTGAAAATCCAGCAGGCTATTTGTGTATGAAATCATGAGCATCGATAACGTGGATAACGTAGTTC CATGTTGGCAGAACTTGACACTTGTCTATAAGTGCTTCCCAAGCCTCCTGAAAAACTGAAGACATTTACATTAGG CTTTTCAGTATAATTTTAATTTAGGATAGGTTTTTTAGCAATGTATCTGGGATTGAGTTTTGCTATTGTGTTTTT ACACTTTAAGAGTTCTTGATGTTTACATAATAAGACTTTCTTATGTGACTTAGCTGCTGTTTTAAGGAGAGCCAA GACGTTTTGTTAGGAATTCCTAATTTTTAGCTTAGTGTAGGTTTGGACATTTAAGGTGTAGTGTTAAATAGGAAA CATTAAGTATTTCATCTTAGTTTCTTGTGGTTTTGTGATTTTGTTGTATTTAATAACCAAAGGAACATTCCCCAT TAAATCAGTAAGAGTAAAATTTTTCAAACTGGGGAAAACGCATTTTAGGTTTTTTAAAGAAAAATTATTTTAAAA TGTGACTTAGAAATAACCATACTAATTACATTAGGCATTTGGGGTGATCATGGAAAATTATAAAATATTTTTAGC ACTTTAGTCCTTTTTCTGTTAATGCAGTTTTACTTTTAAGAAAGTAAAATTTATTCTGGAAAATATGAATTACAG CGCTAAACCTGGTTTTGTTGTGTGAATATATTATATGGTAACTTTTGTAAAATGTTACTCTACATGAAGATTT ACTATTCAAATTTCAAAGCAGACTTCTTGAATTGTTTACGTAACTTTTGCCTGAAGGATTTAGACTGCTTTCTAA TAGTGAAACTAATATATATGGTGGCCAGAGTGTAATATATGCTAATACTTTGGCATGGGAGATATTTATCATGAG TTTTTACTATTAAAAAATGTTATACATTTGCCTACGAGTTTTATAAATGATGTTGCCTTCAGAATTTGTGTGAAG GTACAAAACTAAAAATATCATGTATCTGATGTGCAATGGAAAGTCTTGTCATCATTAGATATGAGTTCTTGATTA TATTCTGAATATTGATGATTAGAAAAATCTTATGTTCTGTCGCTCTTAACAACAGACCCACACAACAAAAAAGC ATGCTATTTGAGTAACTCTTACGACTTACAAGGCTGAGGGCTGTGGTGTGCATTATTCTTTAGGGTCTTCCACCA GCAGTGCCTCCTATTAACCTGTGACAAACAAGTCTCTCAATGTTAAAGAACTGGACATGTGTTTTTATGTTTTT TGTTAGGAATCAGAAAGTATAATAATATGCTTGGTTTCTTTTTCCTATAGTAACATTTTACAAAAGAGCTGCTAG GCAGGTATTTTATTCTCAAAGTGATCTCAAACTGGATGTAAAATTTTAAATTATTTTTTTAATAGTAGTATAAGA ATTCTGGCTGCTATTAGTTATTGTTTTGTTTTCTGGGTTAGAAGCTATTCGAAAAGTCCAGTTTCTGTCCCAGTGT AGCAAAATGTAGTTCCTCGGTTGTTTTTCTTTAAATGCTTTATAATTTTACACTACCTTTTTAATATACAAACCT CATTCTTCATTGGATAACTTGAAGGCTTTGATTTCTTTAAAAATTTAAATTTTAGTGTGTATATTACTTTGACAG TTCCCTCATCTTTGAGATGCACTGATCACTGTGCTTGAAAAAAGACAATACTGAAGATTGTACTATGAAGTTTATT TAACAAGAGGGAAAAGGATGACTAATCGTTCTGCTTCTGAGTACATTTTCCAAAACGTTGGAAAAGAAACTTCTGA CAGGTGATAAGTGGTGTAATGTAGCAGAGCTTAAGAATAGAACTCAATTATCACTTTTTGTGAACAAGTTGGAAT TGTCATGTTACTGTGTAATTGATTTGCTTTACAATGAACAATAAATTTAATAAAAT

MSTGFSFGSGTLGSTTVAAGGTSTGGVFSFGTGASSNPSVGLNFGNLGSTSTPATTSAPSSGFGTGLFGSKPATG
FTLGGTNTGIATTITTGLTLGTPATTSAATTGFSLGFNKPAASATPFALPITSTSASGLTLSSALTSTPAASTGF
TLNNLGGTTATTTTASTGLSLGGALAGLGGSLFQSTNTGTSGLGQNALGLTLGTTAATSTAGNEGLGGIDFSSSS
DKKSDKTGTRPEDSKALKDENLPPVICQDVENLQKFVKEQKQVQEEISRMSSKAMLKVQEDIKALKQLLSLAANG
IQRNTLNIDKLKIETAQELKNAEIALRTQKTPPGLQHEYAAPADYFRILVQQFEVQLQQYRQQIEELENHLATQA
NNSHITPQDLSMAMQKIYQTFVALAAQLQSIHENVKVLKEQYLGYRKMFLGDAVDVFETRRAEAKKWQNTPRVTT
GPTPFSTMPNAAAVAMAATLTQQQQPATGLNAFKL

ATGGCTGTTGGCAAGAACAAACGCCTTACGAAAGGAGGCCAAAAAGGGAGCCAAGAAGAAAAGTGGTTGATCCATTT
TCTAAGAAAGATGGTATGATGTGAAAGCACCTTCTGTGTTCAATATAAGGAATATTGGAAAGATGCTAGTCACC
AGGACCCAAGGAAACAAAATTGCATCTGATGGCCTCAAGGGTCATGTGTTTGAACACCAACAGGTCCGCCAAATC
CGGAAGAATATGATGGAAAATCAAGACCCGGGAGGTGCAGAAAAATGACTTGAAAGAAGTGGTCAATAAATTGATT
CCAGACAGCATTGGAAAAAGACATAGAAAAGACTTGCCAATCCATTTATCCTCTCCATGATGTCTTCGTTAGAAAA
GTAAAAATGCTGAAGAAGCCCAAGTTTGAATTGGGAAAACTCATGGAGCTTCATGGTGAAGGCAGTAGTTCTGGA
AAAGCCACTGGGAGCAAGACAGGTGCTAAAGTTGAATGA

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#### 4210/6881 FIGURE 3881A

GCGGCCGCGGCGGCGGGACCATGGAGCTCAGAGCGCAGCCCCGGCGCGGCGGGGGACCGGGACCGTTTTA GTTTTGATTGCTGTTAACTACTACTGATAACTGAGCCAAAGTGGTGATGCTACTTGAGGGGAATTTCTGCAACCC  ${\tt ATAGTCAACGATTACATGATTGTGAACC} \underline{{\tt ATG}} {\tt CCTTTAGTGAAGAGGAACATTGAGCCCCGGCACTTGTGCCGGGG}$ AGCTCTGCCTGAAGGGATTACCAGCGAACTTGAATGTGTAACCAATAGTACTCTTGCCGCTATCATACGCCAGCT GAGCAGTCTGAGCAAACATGCTGAAGACATATTTGGTGAGTTGTTTAATGAGGCTAACAACTTCTACATCAGAGC AAATTCTCTTCAAGACAGAATTGATCGCCTTGCTGTCAAAGTCACCCAGCTGGATTCAACAGTGGAAGAGGTCTC ACTACAGGATATCAACATGAAAAAGCTTTCAAAAGTTCCACAGTCCAAGACCAGCAAGTGGTTTCAAAAGAACAG CATTCCTAATCCTGTTGCTGATATTTACAACCAGAGTGATAAGCCACCGCCTCTGAACATCCTGACACCATACAG ACAGGACACAGAAGACAAAAGGAAAAGGAAAAAGGCGTCAAAAGGAGCAAAAGCGTATAGATGGCACCACCCGTGA , GGTGAAAAAGGTTAGAAAAGCCAGAAACAGGCGCCAGGAGTGGAATATGATGGCATATGACAAAGAGCTTAGACC CGACAACAGGTTGTCTCAGAGTGTGTACCATGGAGCGTCTTCCGAGGGATCCCTGTCCCCAGATACTAGGTCACA TGCATCGGACGTTACGGATTACTCTTACCCGGCTACTCCCAACCATTCTCTGCACCCCCAGCCTGTGACCCCTTC CTATGCAGCTGGTGACGTGCCACCACGGGCCTGCAAGCCAGGCTGCGGAGCATGAGTACCGGCCCCCATCTGC CCAGGCCTCTGCACCGATGGCTCCAGCAGACTACGGGATGCTCCCAGCGCAGATAATTGAGTATTACAACCCATC CGGACCACCTCCTCCGCCACCTCCTGTGATTCCCTCAGCACAAACTGCCTTCGTCAGCCCTCTCCAGATGCC GGTCACAGCCCCGCCACCCCCGGGCCCACCACCTCCCCGCCAGGCCCTCCTGGTCCCGGGTCTTCTTTCGTC CTCCCCAATGCATGGCCCCCCAGTAGCTGAGGCGAAGCGGCAAGAGCCTGCACAGCCAATCAGTGATGCTCG AAGCGACCTCCTCGCTGCTATTCGAATGGGAATTCAACTGAAAAAGGTGCAGGAGCAGCGGGAGCAGGAGCCAA GCGGGAGCCAGTGGGGAATGACGTGGCCACGATCCTGTCCCGGCGCATTGCCGTGGAGTACAGCGACTCTGACGA CGACTCAGAGTTCGACGAGAACGACTGGTCCGAC<u>TGA</u>GCAAAGGCCGGCGGAGAGGCCGCGTGTGGGAGCGTGTT GAAGATTTTAAGTGGTCTCTACACCCAAATAGTGGTATTCTAATCCCGTAGCATAGCACCTTTTGTATAAACAAT GTGATATTGCTTCTGCACATCCAAAAATTCTGGGTCTTTTCAGTATTTACTGTGTAATACTTAAGTGCCACTAAA CATAGCAAATTGTGCTGCACATGAGGAAATAGGCTGTCACTATCACATTGTCCTGAAAACAGCATCTGCTTTCCT CTTGGCCATGAGAGTATTTAGTGCAGTTTGGGTTTACTCTTACTGATCAATATAACTCTGCAGACTTGCTGTGTG TTTGTGAAGCTGCCTGGTGTTAGGTCTCTGCAAGACTAATGACTATGTCAGAGTGATGTCTTCCAACCAGTAAGT GATATTGTTTCACCGCTTTGGTTTTTCCTTTTGTTTTTTTAAAGGATGTGTTTCTGAATAAGTTGGTTTTAGAGG GAAAGGTTCAACAAACAGGGAGAATCCAGTGTTTCTGCTTTCAGTTTCTTGGCTTGGTAGCCTCTGAGTGAATCT GATGCTCTGCTGAATAATTTCATTACCTCTGCACATGCCTGTCAAATATGAAATTGGAAGGGCCCTTTTCAGGCT GGGTTCCCTGTGGGCATTTGCTTAGTAAATGCCTGTTGATGGTTTTTGCAAGAGAATTCAGCAGCTCAACAGTAA TGAAAGTGAAGAACAGAGTCCATTTTCCTTCCTGGGGCCATTGGGGATGACACTCAAGATACTTGCCAGTCTCTC CAGTGTGGGCACCAGCCGGCCAGAACAGATGCGAGCAGTCCATGACTCTGGGAGCTACACCGCTGAGCTGGGCAG GCAGGAGTTCTTAGCTCCTCAGCGAGCAACAGAGAGCACTTTAGATGGCACCTTTCACCACTTGGTCAGAATTTT AAAAGCTTAGGTTTAGGTGAAAGTAGATATTGACAGCTATTCACCTTTCACGGTGCTGGGGCCAGATTAGGGATC ACTCCCGTGAGGAGGGCCTTCACCCTGTTCTAGAAGCACATGGTTGTCCTCCTGTTGTTGGCACATTAAATGATA AAAAGCACCTCATGAGATTCCCTTGATCAGCCCTGCAGCTGTAGTACAGTGCTGTGCCCTCACCTCCACCCTTCC TGTTGTTCCCACGTGGGCAATACCAGGGACCCATGGGGAAACTCAAGAATGACAGCTTCTATATTTTGTAATTCT GGATGAAAGATAACTGTGTTGAACAAACAGGTGCTCCAGGCTTTGATTATAGATACGACTTCAAAAATATGCTAA TGAGAAGAATCTGGAGCTAAAAGCAGAGATGTTTGAGGTGACGGTAGGAATGTGAGCAGGATGGTGATGGGGGTT TGGGCTTGTGGGCAGTGATTGTACAGAGCCTGTCCATTGGGTGCAGTCATGTAGATCTGAAGCCCTGAAAAGCCT CCTCTTCAGCGTCTTTTCCTAGAGCTGGTCACCACTAGGCTGTCACTATAAATTCCTTGAATATAAGTAACAGTT 

#### 4211/6881 FIGURE 3881B

GGAGAGAACACAGAAGCTACTATCCATGTCAGGATTTATTCTATTTATATCTTATTACAATAAAATTAGTGGCAC TTTATTCATAAATATTCATGAGCCTGTTAATTGTTAGTTGTCTTCCTGTAGCTGAATCAACAAGTTATTTTCAAC TCAATTTTATGACTTGCGAAAAAGCTTTTGCCCTGTTGTGTACCATAACATTTAAAAGAATGGAAAAATGACTGAA ATCCAATTTAGATTATTTTTAGAGTATTTTTCCAGCAAATTCAATTTATTCTGAAATTTAAATCCAGATCTTTTC TAATATGGTATTACAATGAAAAGAATAAAGAGAAGATTTGAATTTTCAGTTTCAATTTTCAAAAACTATTTACCAA GTAAGGTAATTTTAAATTGTCCCTCGTATTATTTCTCCACGTCTGTTTTAGTTTAATGTCTCCTAAGCTTTTCTC TCATAGCGTAGACCTAGGGAAGGGTGGGAAGATTGCCCAGTCCCCGATGGCTGCGCACACAGGAGGCGGCGGAG TACTATTCAAAAATTAACATTTTCATCTCAGTAAGTTTTTAGAACATCAAAATGTTTTCTGAGCTCCAAGTGGCT AGGTTGTAAAAGTTTTATAATAATTTGCAATTAAAATACATGATACATATTAATCCATTAAAGACTAGTGGGAAT GTATCAGCCAGAGTAGCAAGTAATTTTTGTTTTATAAATCATAGTATCTGTCATCTTGCAGTATTACCAATGCTG  ${\tt TTGTAAATTGAATTTAAAGTGGTATTAAAAAAAAACTGTTAAACAATTTTTATCTGTTTGTATATCTTACTATAGA}$ TTATGTACAAGTAACATCTAAATAAAATTACACTTTTAACCCT

MPLVKRNIEPRHLCRGALPEGITSELECVTNSTLAAIIRQLSSLSKHAEDIFGELFNEANNFYIRANSLQDRIDR LAVKVTQLDSTVEEVSLQDINMKKAFKSSTVQDQQVVSKNSIPNPVADIYNQSDKPPPLNILTPYRDDKKDGLKF YTDPSYFFDLWKEKMLQDTEDKRKEKRQKEQKRIDGTTREVKKVRKARNRRQEWNMMAYDKELRPDNRLSQSVY HGASSEGSLSPDTRSHASDVTDYSYPATPNHSLHPQPVTPSYAAGDVPPHGPASQAAEHEYRPPSASARHMALNR PQQPPPPPPQAPEGSQASAPMAPADYGMLPAQIIEYYNPSGPPPPPPPVIPSAQTAFVSPLQMPMQPPFPASA SSTHAAPPHPPSTGLLVTAPPPPGPPPPPPGPGSSLSSSPMHGPPVAEAKRQEPAQPPISDARSDLLAAIRM GIQLKKVQEQREQEAKREPVGNDVATILSRRIAVEYSDSDDDSEFDENDWSD

AAGTGTGCCGGCGTCGCGCAAGGTTCAGCAGGGAGCCGTGGGCCGGGCGCGCCGGTTCCCGGCACGTGTCTCGG TGTCGTCCTTGACCATCGCCGACGCGTTCATTGCAGCCGGCGAGAGCTCAGCTCCGACCCCGCCGCCCCCGCGC TTCCCAGGAGGTTCATCTGCTCCTTCCCTGACTGCAGCGCCCAATTACAGCAAAGCCTGGAAGCTTGACGCGCACC TGTGCAAGCACACGGGGGAGAGACCATTTGTTTGTGACTATGAAGGGTGTGGCAAGGCCTTCATCAGGGACTACC TTGAAGACTGTAAGAAGACCTTTAAGAAACATCAGCAGCTGAAAATCCATCAGTGCCAGCATACCAATGAACCTC TATTCAAGCTATGTATGTCAAAAAGGATGTTCCTTTGTGGCAAAAACATGGACGGAACTTCTGAAACATGTGAGA GAAACCCATAAAGAGGAAATACTATGTGAAGTATGCCGGAAAACATTTAAACGCAAAGATTACCTTAAGCAACAC ATGAAAACTCATGCCCCAGAAAGGGATGTATGTCGCTGTCCAAGAGAAGGCTGTGGAAGAACCTATACAACTGTG AAAACATTTGCAATGAAACAAAGTCTCACTAGGCATGCTGTTGTACATGATCCTGACAAGAAAAATGAAGCTC GGGCAAGGCTTATCTTTGTGTCAAAACGGAGAGTCACCCAACTGTGTGGAAGACAAGATGCTCTCGACAGTTGCA CATGCTTTCTTTATTAAAATTACTGATGCAG

GGGGGGAAACGGAAGTGAGCGGGGGGTCGACTGACGGTAACGGGGCAGAGAGGCTGTTCGCAGAGCTGCGGAAG ATC AATGCCAGAGGACTTGGATCTGAGCTAAAGGACAGTATTCCAGTTACTGAACTTTCAGCAAGTGGACCTTTT GAAAGTCATGATCTTCTTCGGAAAGGTTTTTCTTGTGTGAAAAATGAACTTTTGCCTAGTCATCCCCTTGAATTA TCAGAAAAAATTTCCAGCTCAACCAAGATAAAATGAATTTTTCCACACTGAGAAACATTCAGGGTCTATTTGCT TCACTGGATGTTTTGAGGGGTAATGATGAGACTATTGGATTTGAGGATATTCTTAATGATCCATCACAAAGCGAA  $\tt GTCATGGGAGAGCCACACTTGATGGTGGAATATAAACTTGGTTTACTG{\color{red}{\textbf{TAA}}} TAGTGTGCTGTTCATGGAAACCGA$ GGGCTGCATCTTGTTATAGTCATCTTTGTACTGTAATTTGATGTACACAACATTAAAAGTACTGACACCTGAGA ATTTCTGCTCAAGTAGTATCAGTGATCATTTAAAATTTGGAGGGGTCTTTGGTTTACAGCCATGTGACAATTAAA AGCACTAAAGGGAGATCATGTTAAAGCTCTTAATTTATATTAAAACAGTAGCCTTTGTCTTTAAAAAAAGTTGTTG CTCATGAATATTATAAAATGATCTACAGGTTTCAATTCAACCTGTTTCTAGGTTTTTTTGTAAATTTAGTTTTGA TTAAGCATTATAAGCATTTGAGTCTATAAACTTTATAGTAGCATCTTTCAGAATAAACATTTTTAATTGATTTCA GTGGCAACTCTCAAATTGATTACAATATGAGATATATCAGTGTCGTCCATTAACACTCATAAGAATAATATTTAC TGTGTCAGTGCTATTTTAGGATTATAGTTATTGTTTGATTATTTCAGGTTGAAAAGTAGAAGTTCCAAGGTTTTG ATTTTGGTCTGGTCTTTAAGTGAAAAATTAAAGCAACCAGTAGATGTAGGTTAAACTTTTACTTCATAGACTTAA TATGTGATTAATATTGCCAAGCAACACTGTTAAAGAAAAGTAAAACTCATTTTTTCTTGTTCTTAATTTATAT ATTACAAGATACTGTAAGGTATTCTTTATGAAGTTGATATATAAAAATTTACATTTTTAGAACATTAGTGAATGG AA

 ${\tt MNARGLGSELKDSIPVTELSASGPFESHDLLRKGFSCVKNELLPSHPLELSEKNFQLNQDKMNFSTLRNIQGLFAPLKLQMEFKAVQQVQRLPFLSSSNLSLDVLRGNDETIGFEDILNDPSQSEVMGEPHLMVEYKLGLL}$ 

GAGACAGCGCCGGGCAAGTGAGAGCCGGACGGGCACTGGGCGACTCTGTGCCTCGCTGAGGAAAAATAACTAAA C<u>ATG</u>GGCAAAGGAGATCCTAAGAAGCCGAGAGGCAAAATGTCATCATATGCATTTTTTGTGCAAACTTGTCGGGA GGAGCATAAGAAGAAGCACCCAGATGCTTCAGTCAACTTCTCAGAGTTTTCTAAGAAGTGCTCAGAGAGGTGGAA GACCATGTCTGCTAAAGAGAAAGGGAAAATTTGAAGATATGGCAAAGGCGGACAAGGCCCGTTATGAAAAGAGAAAT GAAAACCTATATCCCTCCCAAAGGGGAGACAAAAAAGAAGTTCAAGGATCCCAATGCACCCAAGAGGCCTCCTTC GGCCTTCTTCCTCTTCTGCTCTGAGTATCGCCCAAAAATCAAAGGAGAACATCCTGGCCTGTCCATTGGTGATGT TGCGAAGAAACTGGGAGAGATGTGGAATAACACTGCTGCAGATGACAAGCAGCCTTATGAAAAGAAGGCTGCGAA GCTGAAGGAAAAATACGAAAAGGATATTGCTGCATATCGAGCTAAAGGAAAGCCTGATGCAGCAAAAAAAGGGAGT GGAAGATGAAGAAGATGAAGAAGAAGAAGATGATGATGAA<u>TAA</u>GTTGGTTCTAGCGCAGTTTTTTTTC TAAGATTTGTTTTTAAACTGTACAGTGTCTTTTTTTGTATAGTTAACACACTACCGAATGTGTCTTTAGATAGCC CTGTCCTGGTGGTATTTTCAATAGCCACTAACCTTGCCTGGTACAGTATGGGGGTTGTAAATTGGCATGGAAATT TAAAGCAGGTTCTTGTTGGTGCACAGCACAAATTAGTTATATATGGGGATGGTAGTTTTTTCATCTTCAGTTGTC AAAAAA

MGKGDPKKPRGKMSSYAFFVQTCREEHKKKHPDASVNFSEFSKKCSERWKTMSAKEKGKFEDMAKADKARYEREM KTYIPPKGETKKKFKDPNAPKRPPSAFFLFCSEYRPKIKGEHPGLSIGDVAKKLGEMWNNTAADDKQPYEKKAAK LKEKYEKDIAAYRAKGKPDAAKKGVVKAEKSKKKKEEEEDEEDEEDEEDEEDEEDEEDEEDDDDE WO 2004/030615 PCT/US2003/028547

# FIGURE 3889

 $\tt CGGAGGTGAGGTTTGTTACCGCGATTCTGAGAGGTGGGCTTTTAGTCCCTCCAGACCTCGGCTTTAGTGCTGTCT$ CCGCTTTTCTTCACCTTCACAGAGGTTCGTGTCTTCCTAAAAGAAGGTTTTATTGGGAGGTAAAGGTCAATGCG TAGGGGTAGAGTAAG<u>ATG</u>TCTTATGGTGAAATTGAAGGTAAATTCTTGGGACCTAGAGAAGAAGTAACGAGTGAG CCACGCTGTAAAAAATTGAAGTCAACCACAGAGTCGTATGTTTTTCACAATCATAGTAATGCTGATTTTCACAGA ATCCAAGAGAAAACTGGAAATGATTGGGTCCCTGTGACCATCATTGATGTCAGAGGACATAGTTATTTGCAGGAG AACAAAATCAAÂACTACAGATTTGCATAGACCTTTGCATGATGAGATGCCTGGTAATAGACCAGATGTTATTGAA TCCATTGATTCACAGGTTTTACAGGAAGCACGTCCTCCATTAGTATCCGCAGACGATGAGATATATAGCACAAGT AAAGCATTTATAGGACCCATTTACAAACCCCCTGAGAAAAAGAAACGTAATGAAGGGAGGAATGAGGCACATGTT CTAAATGGTATAAATGACAGAGGAGGACAAAAAGAGAAACAGAAATTTAACTCTGAAAAATCAGAGATTGACAAT GAATTATTCCAGTTTTACAAAGAAATTGAAGAGCTTGAAAAGGAAAAAGATGGTTTTGAGAACAGTTGTAAAGAA TCTGAACCTTCTCAGGAACAATTTGTTCCATTTTATGAGGGTCATAATAATGGTCTCTTAAAACCTGATGAAGAA AAGAAAGATCTTAGTAATAAAGCTATGCCATCACATTGTGATTATCAGCAGAACTTGGGGAATGAGCCAGACAAA TATCCCTGTAATGGACAAGTAATACCTACATTTTGTGACACTTCATTTACTTCTTCAGGCCTGAATGGCAGTCA GTATATCCTTTTATAGTGCCCTATGGTCCCCCTCTTCCCAGTTTGAACTATCATTTAAACATTCAGAGATTCAGT GGTCCACCAAATCCACCATCAAATATTTTCCAAGCCCAAGATGACTCTCAGATACAAAATGGATATTATGTAAAT AGTGTTCATCCCTCTGGAAATGGCTGCAGTATGCAAGATCGATATGTGAGTAATGGTTTCTGTGAAGTCAGAGAA AAGTTAAATAAATTGCAGAAGTTACTTATTCTTTTAAGAGGTCTGCCTGGTTCTGGGAAAACAACATTGTCTCGA ATTCTGCTTGGTCAGAATCGTGATGGCATTGTGTTCAGCACTGATGACTATTTTCACCATCAAGATGGGTACAGG TATAATGTTAATCAACTTGGTGATGCCCATGACTGGAACCAGAACAGAGCAAAACAAGCTATCGATCAGGGAAGA TCTCCAGTTATAATAGATAACACTAATATACAAGCTTGGGAAATGAAGCCATATGTGGAAGTGGCCATAGGAAAA GGATACAGAGTAGAGTTTCATGAACCTGAAACTTGGTGGAAATTTGATCCTGAAGAATTAGAAAAGAGGAATAAA CATGGTGTGTCTCGAAAGAAGATTGCTCAGATGTTGGATCGTTATGAATATCAAATGTCCATTTCTATTGTAATG AATTCAGTGGAACCATCACACAAAAGCACACAAAGACCTCCTCCTCCACAGGGGAGACAGAGGTGGGGAGGCTCT CTTGGCTCACATAATCGTGTCTGTGTCACAAATAATCAT<u>TAAA</u>ATTAGCTATTTTCAGCTAACACATTTGTTGTTG CACTTGAAAAAGAGTTAGTGAGCCTGTCTTGGAGTTTAAGTAGTTTCAAATAAAAAAAGGCTACAGTGCCTCACA TTAAATGTTTTTATATTCTCTTGTTGTAATACTCTTGGCTGTTATGGAAGCACCTGAGTAATAGAGTGGTGGGTA GGAGCTAGGATGTTTTCTACAATCGAATTTTAAACTAATTTATCTATTTTATAGACACTATTGAACAGTTTTTT AATAGTTCATATCTAAATCTAACTTTTCATAAAACTTTACGGTTTTTCCTTCACTACCTTAAATATGCAAGAAAT CCTCCTTCTCAACCCATCTCCCTAACCCCACATGCTTGCCAGTTCTTGAAGGGATAAAGTGATTCTAATAATGTT TTACTTCTCTCTGTTCAATTTAATGTGATATAATTCTAGTATAAAAATATTTTGGACAGTTGCTTAACATGGTCA TAAGAGGATTTGTACTATAGAATATCTTCTAGTACTAATTTTTCTGTAGAGCAAATTATATTTCTCTCACTGGAT AGTTTTTAGATGTGTTTCTTCATATAAAATTAAAAACTGAGATGGAATTC

MSYGEIEGKFLGPREEVTSEPRCKKLKSTTESYVFHNHSNADFHRIQEKTGNDWVPVTIIDVRGHSYLQENKIKT TDLHRPLHDEMPGNRPDVIESIDSQVLQEARPPLVSADDEIYSTSKAFIGPIYKPPEKKKRNEGRNEAHVLNGIN DRGGQKEKQKFNSEKSEIDNELFQFYKEIEELEKEKDGFENSCKESEPSQEQFVPFYEGHNNGLLKPDEEKKDLS NKAMPSHCDYQQNLGNEPDKYPCNGQVIPTFCDTSFTSFRPEWQSVYPFIVPYGPPLPSLNYHLNIQRFSGPPNP PSNIFQAQDDSQIQNGYYVNNCHVNWNCMTFDQNNEYTDCSENRSSVHPSGNGCSMQDRYVSNGFCEVRERCWKD HCMDKHNGTDRFVNQQFQEEKLNKLQKLLILLRGLPGSGKTTLSRILLGQNRDGIVFSTDDYFHHQDGYRYNVNQ LGDAHDWNQNRAKQAIDQGRSPVIIDNTNIQAWEMKPYVEVAIGKGYRVEFHEPETWWKFDPEELEKRNKHGVSR KKIAQMLDRYEYQMSISIVMNSVEPSHKSTQRPPPPQGRQRWGGSLGSHNRVCVTNNH

GCGGCCCAGCTGCGGAACCTGGTGCAGTGTGACTTTCCTCATCTGTTAGTGTACGGACCATCAGGTGCTGGA AAAAAGACAAGAATTATGTGTATTTTACGTGAACTTTATGGTGTTGGAGTGGAAAAATTGAGAATTGAACATCAG ACCATCACAACTCCATCTAAAAAAAAATTGAAATTAGCACCATTGCAAGTAACTACCACCTTGAAGTTAATCCT AGTGATGCTGGAAATAGTGACCGAGTAGTCATTCAGGAGATGTTGAAAACAGTGGCACAATCACAACAACTTGAA ACAAACTCTCAAAGGGATTTTAAAGTGGTATTATTGACAGAAGTTGACAAACTCACCAAAGATGCTCAGCATGCC TTGCGAAGAACCATGGAAAAATATATGTCTACCTGCAGATTGATCTTGTGCTGCAATTCTACATCTAAAGTGATC CCACCTATTCGTAGTAGGTGCTTGGCGGTTCGTGTGCCTGCTCCCAGCATTGAAGATATTTGCCACGTGTTATCT ACTGTGTGTAAGAAGGAAGGTCTGAATCTTCCTTCACAACTGGCTCATAGACTTGCAGAGAAGTCTTGTAGAAAT CTCAGAAAAGCCCTGCTTATGTGTGAAGCCTGCAGAGTGCAACAATATCCTTTTACTGCAGATCAAGAAATCCCT GAAGTTCGTGGAAGGCTGTATGAGCTTCTAACTCATTGTATTCCTCCTGAGATAATAATGAAGGGCCTTCTCTCA GAACTGTTACATAATTGTGATGGACAACTGAAAGGGGAGGTGGCACAAATGGCAGCTTACTATGAGCATCGTCTA CAGCTGGGTAGCAAAGCCATTTATCACTTGGAAGCGTTTGTGGCCAAATTCATGGCACTTTATAAGAAGTTCATG  ${\tt GAGGATGGAAGGCATGATGTTC} \underline{{\tt TGA}} {\tt CTTCTGTCAGTTATTCTTGCAAAGATTTCTCAGTATCAGTATTA}$ TAACTTCTCTGTGAACTATTAATCATCCTCTGAGTTAAATAATTGCTCCTATACTATTGAAGTATGTAGTTTTGT ACATAACTTAGAGACTTTAGAGTCTAAGAAAATGATCTTAATTTACTTTAAGCATTGGTTATTCAAGTATTCATT GTTGATCCTCCTATTCTCTCCGTCTAATCTCTCACCTGCTAAAGGAGATTTACACATTAGAAAGCAAAGATTAT TTTCATTTATCCAGATGACCATTTTCTGCCACAGGTAACATGATTGTTTGACGG

MSLWVDKYRPCSLGRLDYHKEQAAQLRNLVQCGDFPHLLVYGPSGAGKKTRIMCILRELYGVGVEKLRIEHQTIT
TPSKKKIEISTIASNYHLEVNPSDAGNSDRVVIQEMLKTVAQSQQLETNSQRDFKVVLLTEVDKLTKDAQHALRR
TMEKYMSTCRLILCCNSTSKVIPPIRSRCLAVRVPAPSIEDICHVLSTVCKKEGLNLPSQLAHRLAEKSCRNLRK
ALLMCEACRVQQYPFTADQEIPETDWEVYLRETANAIVSQQTPQRLLEVRGRLYELLTHCIPPEIIMKGLLSELL
HNCDGQLKGEVAQMAAYYEHRLQLGSKAIYHLEAFVAKFMALYKKFMEDGLEGMMF

MAAGFKTVEPLEYYRRFLKENCRPDGRELGEFRTTTVNIGSISTADGSALVKLGNTTVICGVKAEFAAPSTDAPD KGYVVPNVDLPPLCSSRFRSGPPGEEAQVASQFIADVIENSQIIQKEDLCISPGKLVWVLYCDLICLDYDGNILD ACTFALLAALKNVQLPEVTINEETALAEVNLKKKSYLNIRTHPVATSFAVFDDTLLIVDPTGEEEHLATGTLTIV MDEEGKLCCLHKPGGSGLTGAKLQDCMSRAVTRHKEVKKLMDEVIKSMKPK

AGAGACTCAAGATGATTCCCTTTTTACCCATGTTTTCTCTACTATTGCTGCTTATTGTTAACCCTATAAACGCCA ACAATCATTATGACAAGATCTTGGCTCATAGTCGTATCAGGGGTCGGGACCAAGGCCCAAATGTCTGTGCCCTTC AACAGATTTTGGGCACCAAAAAGAAATACTTCAGCACTTGTAAGAACTGGTATAAAAAGTCCATCTGTGGACAGA CCATTGACCATGTTTATGGCACTCTGGGCATCGTGGGAGCCACCACACGCAGCGCTATTCTGACGCCTCAAAAC TGAGGGAGGAGTCGAGGGAAAGGGATCCTTCACTTACTTTGCACCGAGTAATGAGGCTTGGGACAACTTGGATT CTGATATCCGTAGAGGTTTGGAGAGCAACGTGAATGTTGAATTACTGAATGCTTTACATAGTCACATGATTAATA AGAGAATGTTGACCAAGGACTTAAAAAATGGCATGATTATTCCTTCAATGTATAACAATTTGGGGCTTTTCATTA ACCATTATCCTAATGGGGTTGTCACTGTTAATTGTGCTCGAATCATCCATGGGAACCAGATTGCAACAAATGGTG TTGTCCATGTCATTGACCGTGTGCTTACACAAATTGGTACCTCAATTCAAGACTTCATTGAAGCAGAAGATGACC TTTCATCTTTTAGAGCAGCTGCCATCACATCGGACATATTGGAGGCCCTTGGAAGAGACGGTCACTTCACACTCT TTGCTCCCACCAATGAGGCTTTTGAGAAACTTCCACGAGGTGTCCTAGAAAGGATCATGGGAGACAAAGTGGCTT CCGAAGCTCTTATGAAGTACCACATCTTAAATACTCTCCAGTGTTCTGAGTCTATTATGGGAGGAGCAGTCTTTG AGACGCTGGAAGGAAATACAATTGAGATAGGATGTGACGGTGACAGTATAACAGTAAATGGAATCAAAATGGTGA AAGTTATTGAGCTGGCTGGAAAACAGCAAACCACCTTCACGGATCTTGTGGCCCCAATTAGGCTTGGCATCTGCTC TGAGGCCAGATGGAGAATACACTTTGCTGGCACCTGTGAATAATGCATTTTCTGATGATACTCTCAGCATGGATC AGCGCCTCCTTAAATTAATTCTGCAGAATCACATATTGAAAGTAAAAGTTGGCCTTAATGAGCTTTACAACGGGC AAATACTGGAAACCATCGGAGGCAAACAGCTCAGAGTCTTCGTATATCGTACAGCTGTCTGCATTGAAAATTCAT GCATGGAGAAAGGGAGTAAGCAAGGGAGAAACGGTGCGATTCACATATTCCGCGAGATCATCAAGCCAGCAGAGA AATCCCTCCATGAAAAGTTAAAACAAGATAAGCGCTTTAGCACCTTCCTCAGCCTACTTGAAGCTGCAGACTTGA AAGAAAAGAAATTCTGATACGGGACAAAAATGCTCTTCAAAACATCATTCTTTATCACCTGACACCAGGAGTTT TCATTGGAAAAGGATTTGAACCTGGTGTTACTAACATTTTAAAGACCACACAAGGAAGCAAAATCTTTCTGAAAG AAGTAAATGATACACTTCTGGTGAATGAATTGAAATCAAAAGAATCTGACATCATGACAACAAATGGTGTAATTC ATGTTGTAGATAAACTCCTCTATCCAGCAGACACACCTGTTGGAAATGATCAACTGCTGGAAATACTTAATAAAT TAATCAAATACATCCAAATTAAGTTTGTTCGTGGTAGCACCTTCAAAGAAATCCCCGTGACTGTCTATACAACTA AAATTATAACCAAAGTTGTGGAACCAAAAATTAAAGTGATTGAAGGCAGTCTTCAGCCTATTATCAAAACTGAAG GACCCACACTAACAAAAGTCAAAATTGAAGGTGAACCTGAATTCAGACTGATTAAAGAAGGTGAAACAATAACTG AAGTGATCCATGGAGAGCCAATTATTAAAAAATACACCAAAATCATTGATGGAGTGCCTGTGGAAATAACTGAAA AAGAGACACGAGAAGAACGAATCATTACAGGTCCTGAAATAAAATACACTAGGATTTCTACTGGAGGTGGAGAAA CAGAAGAAACTCTGAAGAAATTGTTACAAGAAGAGGTCACCAAGGTCACCAAATTCATTGAAGGTGGTGATGGTC ATTTATTTGAAGATGAAGAATTAAAAGACTGCTTCAGGGAGACACCCCGTGAGGAAGTTGCAAGCCAACAAAA AAGTTCAAGGATCTAGAAGACGATTAAGGGAAGGTCGTTCTCAGTGAAAATCCAAAAACCAGAAAAAAATGTTTA TACAACCCTAAGTCAATAACCTGACCTTAGAAAATTGTGAGAGCCAAGTTGACTTCAGGAACTGAAACATCAGCA TGTGGAGTTAGCCTCCTGTGGTAAAGGAATTGAAGAAATATAACACCTTACACCCTTTTTCATCTTGACATTAA AAGTTCTGGCTAACTTTGGAATCCATTAGAGAAAAATCCTTGTCACCAGATTCATTACAATTCAAATCGAAGAGT ATCTCTCCATGGGAAGCTAAGTTATAAAAATAGGTGCTTGGTGTACAAAACTTTTTATATCAAAAAGGCTTTGCAC ATTTCTATATGAGTGGGTTTACTGGTAAATTATGTTATTTTTTACAACTAATTTTGTACTCTCAGAATGTTTGTC ATATGCTTCTTGCAATGCATATTTTTTAATCTCAAACGTTTCAATAAAACCATTTTTCAGATATAAAGAGAATTA CTTCAAATTGAGTAATTCAGAAAAACTCAAGATTTAAGTTAAAAAGTGGTTTGGACTTGGGAA

#### 4226/6881 FIGURE 3896A

TCCAGTCCGTGCGGCGGACCCCGAGGAGCCTCGATGTGGATGGCCCCGCGAAGTTAAGTTCTGGGCTCGCGCTTC CACTCCGCCGCGCCTTCCTCCCAGTTTCCGTCCGCTCGCCGCACCGGCTTCGTTCCCCCAAATCTCGGACCGTCC CTTCGCGCCCCTCCCGTCCGCCCCAGTGCTGCGTTCTCCCCCTCTTGGCTCTCCTGCGGCTGGGGAGGGGC GTGCACCTGGCCGCTGCCCAGGCCGGAGTTTAGCCAGTCCAACTCGGCCACCTCCAGCCCGGCGCCGTCGGGCAG CGCGGCTGCCAACCCCGACGCCGCGGCCGGCCTGCCCTCGGCCTCGCCTGTCAGCGCCGACTTCATGAG GCAGCCGCGAAGAGCAGCTCGTCCCGCCGCAACGCGTGGGGCAACCTGTCCTACGCCGACCTCATCACCAAGGC CATCGAGAGCTCGGCGGAGAAGCGGCTCACGCTGTCGCAGATCTACGAGTGGATGGTCAAGAGCGTGCCCTACTT CAAGGATAAGGGTGACAGCAACAGCTCGGCGGGCTGGAAGAATTCAATTCGTCATAATCTGTCCCTACACAGCAA GTTCATTCGTGTGCAGAATGAAGGAACTGGAAAAAGTTCTTGGTGGATGCTCAATCCAGAGGGTGGCAAGAGCGG GAAATCTCCTAGGAGAAGAGCTGCATCCATGGACAACAACAGTAAATTTGCTAAGAGCCGAAGCCGAGCTGCCAA GAAGAAAGCATCTCTCCAGTCTGGCCAGGAGGGTGCTGGGGACAGCCCTGGATCACAGTTTTCCAAATGGCCTGC AAGCCCTGGCTCTCACAGCAATGATGACTTTGATAACTGGAGTACATTTCGCCCTCGAACTAGCTCAAATGCTAG TACTATTAGTGGGAGACTCTCACCCATTATGACCGAACAGGATGATCTTGGAGAAGGGGATGTGCATTCTATGGT AAATCTTTTGGATAATCTCAACCTTCTCTCATCACCAACATCATTAACTGTTTCGACCCAGTCCTCACCTGGCAC CATGATGCAGCAGACGCCGTGCTACTCGTTTGCGCCACCAAACACCAGTTTGAATTCACCCAGCCCAAACTACCA AAAATATACATATGGCCAATCCAGCATGAGCCCTTTGCCCCAGATGCCTATACAAACACTTCAGGACAATAAGTC GAGTTATGGAGGTATGAGTCAGTATAACTGTGCGCCTGGACTCTTGAAGGAGTTGCTGACTTCTGACTCTCCTCC CCATAATGACATTATGACACCAGTTGATCCTGGGGTAGCCCAGCCCAACAGCCGGGTTCTGGGCCAGAACGTCAT GATGGGCCCTAATTCGGTCATGTCAACCTATGGCAGCCAGGCATCTCATAACAAAATGATGAATCCCAGCTCCCA TACCCACCCTGGACATGCTCAGCAGACATCTGCAGTTAACGGGCGTCCCCTGCCCCACACGGTAAGCACCATGCC CCACACCTCGGGTATGAACCGCCTGACCCAAGTGAAGACACCTGTACAAGTGCCTCTGCCCCACCCCATGCAGAT GAGTGCCCTGGGGGGCTACTCCTCCGTGAGCAGCTGCAATGGCTATGGCAGAATGGGCCTTCTCCACCAGGAGAA GCTCCCAAGTGACTTGGATGGCATGTTCATTGAGCGCTTAGACTGTGACATGGAATCCATCATTCGGAATGACCT CATGGATGGAGATACATTGGATTTTAACTTTGACAATGTGTTGCCCAAACCAAAGCTTCCCACACAGTGTCAAGAC  $\texttt{AACGACATAGCTGGGTGTCAGGC} \underline{\textbf{TGA}} \textbf{GGGTTAGTGAGCAGGTTACACTTAAAAGTACTTCAGATTGTCTGACA}$ AAAAAAAAAACCCTCCTTTTTTCCTTTCGTCAGACTTGGCAGCAAAGACATTTTTCCTGTACAGGATGTTTGC CCAATGTGTGCAGGTTATGTGCTGCTGTAGATAAGGACTGTGCCATTGGAAATTTCATTACAATGAAGTGCCAAA CTCACTACACCATATAATTGCAGAAAAGATTTTCAGATCCTGGTGTGCTTTCAAGTTTTGTATATAAGCAGTAGA TACAGATTGTATTTGTGTGTGTTTTTTGGTTTTTCTAAATATCCAATTGGTCCAAGGAAAGTTTATACTCTTTTTG ATCACAAAGAACTGAATCTCCATTCTGCATCTCCATTGAACAGCCTTGGACCTGTTCACGTTGCCACAGAATTCA TGGTTCTAATTTCCAGATAAATGATTTTTGATGTTATTGTTGGGACTTAAGAACATTTTTGGAATAGATATTGAA CTGTAATAATGTTTTCTTAAAACTAGAGTCTACTTTGTTACATAGTCAGCTTGTAAATTTTTGTGGAACCACAGGT ATTTGGGGCAGCATTCATATTTTCATTTTGTATTCTAACTGGATTAGTACTAATTTTATACATGCTTAACTGGT TTGTACACTTTGGGATGCTACTTAGTGATGTTTCTGACTAATCTTAAATCATTGTAATTAGTACTTGCATATTCA ACGTTTCAGGCCCTGGTTGGGCAGGAAAGTGATGTATAGTTATGGACACTTTGCGTTTCTTATTTAGGATAACTT AATATGTTTTTATGTATGTATTTTAAAGAAATTTCATCTGCTTCTACTGAACTATGCGTACTGCATAGCATCAAG TCTTCTCTAGAGACCTCTGTAGTCCTGGGAGGCCTCATAATGTTTGTAGATCAGAAAAGGGAGATCTGCATCTAA

#### 4227/6881 FIGURE 3896B

AGCAATGGTCCTTTGTCAAACGAGGGATTTTGATCCACTTCACCATTTTGAGTTGAGCTTTAGCAAAAGTTTCCC ACTCATACTTCATCTCATTCTCCCTTCTGCCCTGCAGATTAGATTACTTAGCACACTGTGGAAGTTTAAGTGGAA GGAGGGAATTTAAAAATGGGACTTGAGTGGTTTGTAGAATTTGTGTTCATAAGTTCAGATGGGTAGCAAATGGAA TAGAACTTACTTAAAAATTGGGGAGATTTATTTGAAAACCAGCTGTAAGTTGTGCATTGAGATTATGTTAAAAGC CTTGGCTTAAGAATTTGAAAATTTCTTTAGCCTGTAGCAACCTAAACTGTAATTCCTATCATTATGTTTTATTAC TTTCCAATTACCTGTAACTGACAGACCAAATTAATTGGCTTTGTGTCCTATTTAGTCCATCAGTATTTTCAAGTC ATGTGGAAAGCCCAAAGTCATCACAATGAAGAGAACAGGTGCACAGCACTGTTCCTCTTGTGTTCTTGAGAAGGA TCTAATTTTTCTGTATATAGCCCACATCACACTTGCTTTGTCTTGTATGTTAATTGCATCTTCATTGGCTTGGTA TTTCCTAAATGTTTAACAAGAACACAAGTGTTCCTGATAAGATTTCCTACAGTAAGCCAGCTGTATTGTAAGCTT CCCACCGTGATGATCATTTTTTTGAAGATTCATTGAACAGCCACCACTCTATCATCCTCATTTTTGGGGCAGTCCA AGACATAGCTGGTTTTAGAAACCCAAGTTCCTCTAAGCACAGCCTCCCGGGTATGTAACTGAACTTGGTGCCAAA GTACTTGTGTACTAATTTCTATTACTACGTACTGTCACTTTCCTCCCGTGCCATTACTGCATCATAATACAAGGA ACCTCAGAGCCCCCATTTGTTCATTAAAGAGGCAACTACAGCCAAAATCACTGTTAAAAATCTTACTACTTCATGG AGTAGCTCTTAGGAAAATATATCTTCCTCCTGAGTCTGGGTAATTATACCTCTCCCAAGCCCCCATTGTGTGTTG GCAAACATTATGTGGCCTCTGGTAGTTTTTTTCCTGTAAGAATACTGACTTTCTGGAGTAATGAGTATATATCAG TTTGTACTGTTATTAAAAGCATATTGTATTATAGAGCTATTCAGATATTTTAAATATAAAGATGTATTGTTTCCG TAATATAGACGTATGGAATATATTTAGGTAATAGATGTATTACTTGGAAAGTTCTGCTTTGACAAACTGACAAAG TCTAAATGAGCACATGTATCCCAGTGAGCAGTAAATCAATGGAACATCCCAAGAAGAGGGATAAGGATGCTTAAAA TGGAAATCATTCTCCAACGATATACAAATTGGACTTGTTCAACTGCTGGATATATGCTACCAATAACCCCAGCCC CAACTTAAAATTCTTACATTCAAGCTCCTAAGAGTTCTTAATTTATAACTAATTTTAAAAGAGAAGTTTCTTTTC TGGTTTTAGTTTGGGAATAATCATTCATTAAAAAAAATGTATTGTGGTTTATGCGAACAGACCAACCTGGCATTA CAGTTGGCCTCTCCTTGAGGTGGGCACAGCCTGGCAGTGTGGCCAGGGGTGGCCATGTAAGTCCCATCAGGACGT AGTCATGCCTCCTGCATTTCGCTACCCGAGTTTAGTAACAGTGCAGATTCCACGTTCTTGTTCCGATACTCTGAG AAGTGCCTGATGTTGATGTACTTACAGACACAAGAACAATCTTTGCTATAATTGTATAAAGCCATAAATGTACAT AAATTATGTTTAAATGGCTTGGTGTCTTTCTTTTCTAATTATGCAGAATAAGCTCTTTATTAGGAATTTTTTGTG AAGCTATTAAATACTTGAGTTAA

MAEAPQVVEIDPDFEPLPRPRSCTWPLPRPEFSQSNSATSSPAPSGSAAANPDAAAGLPSASAAAVSADFMSNLS
LLEESEDFPQAPGSVAAAVAAAAAAATGGLCGDFQGPEAGCLHPAPPQPPPPGPLSQHPPVPPAAAGPLAGQPR
KSSSSRNAWGNLSYADLITKAIESSAEKRLTLSQIYEWMVKSVPYFKDKGDSNSSAGWKNSIRHNLSLHSKFIR
VQNEGTGKSSWWMLNPEGGKSGKSPRRAASMDNNSKFAKSRSRAAKKKASLQSGQEGAGDSPGSQFSKWPASPG
SHSNDDFDNWSTFRPRTSSNASTISGRLSPIMTEQDDLGEGDVHSMVYPPSAAKMASTLPSLSEISNPENMENLL
DNLNLLSSPTSLTVSTQSSPGTMMQQTPCYSFAPPNTSLNSPSPNYQKYTYGQSSMSPLPQMPIQTLQDNKSSYG
GMSQYNCAPGLLKELLTSDSPPHNDIMTPVDPGVAQPNSRVLGQNVMMGPNSVMSTYGSQASHNKMMNPSSHTHP
GHAQQTSAVNGRPLPHTVSTMPHTSGMNRLTQVKTPVQVPLPHPMQMSALGGYSSVSSCNGYGRMGLLHQEKLPS
DLDGMFIERLDCDMESIIRNDLMDGDTLDFNFDNVLPNQSFPHSVKTTTHSWVSG

 ${\tt GGTTCATTTCGTGTCTCGGCG} \underline{{\tt ATG}} {\tt TTTCCTAGAGTCTCGACGTTCCTACCTCTTCGCCCCCTTTCCCGCCACCCT}$ TTGTCCTCTGGAAGCCCGGAGACATCAGCGGCTGCGATTATGCTACTCACTGTTCGGCACGGAACAGTCAGGTAC CGCAGTTCAGCGCTGTTGGCCCGGACAAAAATAACATCCAAAGATATTTTGGCACTAACAGTGTGATCTGTAGC AAGAAAGATAAGCAGTCTGTTCGAACTGAGGAGACTTCCAAGGAGACTTCAGAGAGCCAAGACAGTGAAAAGGAA AATACGAAAAAAGACTTGTTAGGCATTATTAAGGGCATGAAAGTTGAATTAAGCACAGTAAATGTACGAACAACA AAGCCCCCCAAAAGAAGACCACTTAAAAGTTTGGAAGCTACACTTGGCAGGCTTCGAAGAGCTACAGAATATGCT CCAAAGAAGAAATTGAGCCCCTGAGTCCTGAGTTGGTGGCAGCTGCATCTGCTGTGGCAGATTCTCCCCTTTT GATAAGCAAACAACCAAGTCAGAGCTGCTGAGCCAGCTCCAGCAGCATGAGGAAGAGTCAAGGGCACAGAGAGAT GCAAAGCGACCTAAAATTAGTTTCAGTAACATAATATCAGATATGAAAGTTGCCAGATCTGCTACAGCTAGAGTT  ${\tt CGTTCAAGACCAGAGCTTCGGATTCAGTTTGATGAAGGCTATGACAATTATCCTGGCCAGGAGAAGACGGATGAT}$ CTTAAAAAAAGGAAAAATATATTCACAGGGAAAAGACTTAATATTTTTGACATGATGGCAGTTACTAAAGAAGCA CCTGAAACAGACACATCACCTTCACTTTGGAATGTGGAATTTGCTAAGCAGTTAGCCACAGTAAATGAACAACCC CTTCAGAATGGATTTGAAGAGCTGATCCAGTGGACAAAAGAGGGGAAACTATGGGAGTTCCCAATTAACAATGAA GCAGGTTTTGATGATGATGGTTCAGAATTTCATGAACATATATTTCTGGAGAAACACCTGGAGAGCTTTCCAAAA CAAGGACCAATTCGCCACTTCATGGAGCTGGTGACTTGTGGCCTTTCCAAAAACCCATATCTTAGTGTTAAACAG AGAGTTTGT

MFPRVSTFLPLRPLSRHPLSSGSPETSAAAIMLLTVRHGTVRYRSSALLARTKNNIQRYFGTNSVICSKKDKQSV RTEETSKETSESQDSEKENTKKDLLGIIKGMKVELSTVNVRTTKPPKRRPLKSLEATLGRLRRATEYAPKKRIEP LSPELVAAASAVADSLPFDKQTTKSELLSQLQQHEEESRAQRDAKRPKISFSNIISDMKVARSATARVRSRPELR IQFDEGYDNYPGQEKTDDLKKRKNIFTGKRLNIFDMMAVTKEAPETDTSPSLWNVEFAKQLATVNEQPLQNGFEE LIQWTKEGKLWEFPINNEAGFDDDGSEFHEHIFLEKHLESFPKQGPIRHFMELVTCGLSKNPYLSVKQKVEHIEW FRNYFNEKKDILKESNIQFN

MIIYRDLISHDEMFSDIYKIREIADGLCLEVEGKMVSRTEGNIDDSLIGGNASAEGPEGEGTESTVITGVDIVMN HHLQETSFTKEAYKKYIKDYMKSIKGKLEEQRPERVKPFMTGAAEQIKHILANFKNYQFFIGENMNPDGMVALLD YREDGVTPYMIFFKDGLEMEKC WO 2004/030615 PCT/US2003/028547

#### 4233/6881 FIGURE 3902

GCGGCACGGAGCGGGCGTGCTGAGCCCCGGCCGGCCGGCATGGGCGTCTCCCGCGGGGCCCTCCGCTGGCCG GGGCTAGGGCCGGATGGAGCCGCGGGACGGTAGCCCGGAGGCCCGGAGCAGCGACTGCGAGTCGGCTTCCGCCTC GTCCAGCGGCTCCGAGCGCGGCCGGTCCCGAGCCGGACAAGGCGCCGCGGCGACTCAACAAGCGGCGCTTCCC CCCTGGGGCCCGGTGCAGCGAGTCAGAGCGGCAGATCCGGAGTACAGTGGACTGGAGCGAGTCGGCGACATATGG GGAGCACATCTGGTTCGAGACCAACGTGTCCGGGGACTTCTGCTACGTTGGGGAGCAGTACTGTGTAGCCAGGAT GCTGCAGAAGTCAGTGTCTCGAAGAAGTGCGCAGCCTGCAAGATTGTGGTGCACACGCCCTGCATCGAGCAGCT GGAGAAGATAAATTTCCGCTGTAAGCCATCCTTCCGTGAATCAGGCTCCAGGAATGTCCTCGAGCCAACCTTTGT ATGGCACCACTGGGTACACAGACGACGCCAGGACGGCAAGTGTCGGCACTGTGGGAAGGGATTCCAGCAGAAGTT CACCTTCCACAGCAAGGAGATTGTGGCCATCAGCTGCTCGTGGTGCAAGCAGGCATACCACAGCAAGGTGTCCTG CTTCGTGCTGCAGCAGATCGAGGAGCCGTGCTCGCTGGGGGTCCACGCAGCCGTGGTCATCCCGCCCACCTGGAT CAGCAAGAAAGGGCCTGAGGAGGCCGCTGGAGACCCTTCATCATCAGGCCCACCCCCTCCCCCCCATGAAGCC CCTGCTGGTGTTTGTGAACCCCAAGAGTGGGGGCAACCAGGGTGCAAAGATCATCCAGTCTTTCCTCTGGTATCT CAATCCCCGACAAGTCTTCGACCTGAGCCAGGGAGGGCCCCAAGGAGGCGCTGGAGATGTACCGCAAAGTGCACAA CCTGCGGATCCTGGCGTGCGGGGGCGACGGCACGGTGGGCTGGATCCTCTCCACCCTGGACCAGCTACGCCTGAA GCCGCCACCCCTGTTGCCATCCTGCCCCTGGGTACTGGCAACGACTTGGCCCGAACCCTCAACTGGGGTGGGGG CTACACAGATGAGCCTGTGTCCAAGATCCTCTCCCACGTGGAGGGGGAACGTGGTACAGCTGGACCGCTGGGA TGTCTTCAACAACTACTTCAGCCTGGGCTTTGACGCCCACGTCACCCTGGAGTTCCACGAGTCTCGAGAGGCCAA CCCAGAGAAATTCAACAGCCGCTTTCGGAATAAGATGTTCTACGCCGGGACAGCTTTCTCTGACTTCCTGATGGG GAAACCCCAGTGTGTTTTTCCTGAACATCCCCAGGTACTGTGCGGGCACCATGCCCTGCGGCCACCCTGGGGA GCACCACGACTTTGAGCCCCAGCGGCATGACGACGGCTACCTCGAGGTCATTGGCTTCACCATGACGTCATTGGC CGCGCTGCAGGTGGGCGGACACGGCGAGCGGCTGACGCAGTGTCGCGAGGTGGTGCTCACCACATCCAAGGCCAT CATGGTGCAGAAGGCCAAGCGGCGGAGCGCCCCCCTGCACAGCGACCAGCAGCCGGTGCCAGAGCAGTTGCG CATCCAGGTGAGACGCGTCAGCATGCACGACTATGAGGCCCTGCACTACGACAAGGAGCAGCTCAAGGAGGCCTC CGTGCCGCTGGGCACTGTGGTGGTCCCAGGAGACAGTGACCTAGAGCTCTGCCGTGCCCACATTGAGAGACTCCA GCAGGAGCCCGATGGTGCTGGAGCCAAGTCCCCGACATGCCAGAAACTGTCCCCCAAGTGGTGCTTCCTGGACGC CACCACTGCCAGCCGCTTCTACAGGATCAACCGAGCCCAGGAGCACCTCAACTATGTGACTGAGATCGCACAGGA TGAGATTTATATCCTGGACCCTGAGCTGCTGGGGGCATCGGCCCGGCCTGACCTCCCAACCCCCACTTCCCCTCT CCCCACCTCACCCTGCTCACCCACGCCCCGGTCACTGCAAGGGGATGCTGCACCCCCTCAAGGTGAAGAGCTGAT TGAGGCTGCCAAGAGGAACGACTTCTGTAAGCTCCAGGAGCTGCACCGAGCTGGGGGGGCGACATCATGCACCGAGA CAAGCAGAGTCGCACGCTCCTGCACCACGCAGTCAGCACTGGCAGCAAGGATGTGGTCCGCTACCTGCTGGACCA CGCTCCCCCAGAGATCCTTGATGCGGTGGAGGAAAACGGGGGAGACCTGTTTGCACCAAGCAGCGGCCCTGGGCCA GCGCACCATCTGCCACTACATCGTGGAGGCCGGGCCAGACCAGCAGGGCGACACTCCCCGGCAGCAGGCTGAGA AGGCTCAGGACACCGAGCTGGCGGCCTACCTGGAGAACCGGCAGCACTACCAGATGATCCAGCGGGAGGACCAGG ACCTCACTGCCACATTCCAGTGGGACGGCCACGGGGGACCTAGGCCCCAGGGAAAGAGCCCCATGCCGCCCCCT AAGGAGCCGCACAGACCTAGGGCTGGACTCAGGAGCTGGGGGGCCTCACCTGTTCCCCTGAGGACCCCGCCGGAC CCGGAGGCTCACAGGGAACAAGACACGGCTGGGTTGGATATGCCTTTGCCGGGGTTCTGGGGCAGGGCGCTCCCT GGCCGCAGCAGATGCCCTCCCAGGAGTGGAGGGGCTGGAGAGGGGGAAGGCCTTCGGGAAGAGGCTTCCTGGGCCC CCTGGTCTTCGGCCGGGTCCCCAGCCCCGCTCCTGCCCCACCCCACCTCCCCGGGCTTCCTCCCGGAAACTCA GTGCCTGCTGCACTTGCCTGCCTTGCTTGGCACCCGCTCCGGCGACCCTCCCCGCTCCTCTTCATT

## 4234/6881 FIGURE 3903A

TTTTTCTTTCCTGGCTGATGATTTGTCATTCTAGTCACTTCCTGCCTTGTGACCACACCCCAGGCTTGACAAAG CTGTTCTGCAGATCAGAAAGAAGGGGTTCCTGGTCATACACCAGTACTACCAAGGACAGCTTTTTTCCTGCAAGA TCTGTTACCTAAAGCAATAAAAATGGCCAGAGGATCAGTGTCCGATGAGGAAATGATGGAGCTCAGAGAAGCTT TGCCTTTGCCTGGGTATAGAGTACGAGAAATTACAGAAAACCTGATGGCTACAGGTGATCTGGACCAAGATGGAA GGATCAGCTTTGATGAGTTTATCAAGATTTTCCATGGCCTAAAAAGCACAGATGTTGCCAAGACCTTTAGAAAAG CAATCAATAAGAAGGAAGGGATTTGTGCAATCGGTGGTACTTCAGAGCAGTCTAGCGTTGGCACCCAACACTCCT ATTCAGAGGAAGAAAGTATGCCTTTGTCAACTGGATAAACAAAGCCCTGGAAAATGATCCTGATTGTCGGCATG TCATCCCAATGAACCCAAACACGAATGATCTCTTTAATGCTGTTGGAGATGGCATTGTCCTTTGTAAAATGATCA ACCTGTCAGTGCCAGACACAATTGATGAAAGAACAATCAACAAAAAGAAGCTAACCCCTTTCACCATTCAGGAAA ATCTGAACTTGGCTCTGAACTCTGCCTCAGCCATCGGGTGCCATGTGGTCAACATAGGGGCTGAGGACCTGAAGG  ${\tt AGGGGAAGCCTTATCTGGTCCTGGGACTTCTGTGGCAAGTCATCAAGATTGGGTTGTTTGCTGACATTGAACTCA}$ GCAGAAATGAAGCTCTGATTGCTCTTTTGAGAGAAGGTGAGAGCCTGGAGGATTTGATGAAACTCTCCCCTGAAG AGCTCTTGCTGAGGTGGGCTAATTACCACCTGGAAAATGCAGGCTGCAACAAAATTGGCAACTTCAGTACTGACA TCAAGGACTCAAAAGCTTATTACCACCTGCTTGAGCAGGTGGCTCCAAAAGGAGATGAAGAAGGTGTTCCTGCTG GGCTGGGCTGCCGGCAGTTTGTCACAGCCACAGATGTTGTCCGAGGGAACCCCAAGTTGAACTTGGCTTTTATTG CCAACCTCTTTAACAGATACCCTGCCCTGCACAAACCAGAGAACCAGGACATTGACTGGGGGGCTCTTGAAGGTG AGACGAGAGAGAGCGGACATTTAGGAACTGGATGAACTCCCTGGGTGTTAACCCTCGAGTCAATCATTTGTACA GTGACTTATCAGATGCCCTGGTCATCTTCCAGCTCTATGAAAAGATCAAAGTTCCTGTTGACTGGAACAGAGTAA ACAAACCGCCATACCCCAAACTGGGAGGCAATATGAAGAAGCTTGAGAATTGTAACTACGCGGTAGAATTGGGGA AGAATCAAGCGAAGTTCTCCCTGGTTGGCATCGGTGGACAAGATCTCAATGAAGGAAACCGCACTCTCACACTGG CCTTGATTTGGCAGCTAATGAGAAGGTATACACTGAATATCCTCGAAGAAATTGGTGGTGGCCAGAAGGTCAATG ACCCGAAGATTAGTACAAGTCTGCCTGTTCTGGACCTCATCGATGCCATCCAACCAGGTTCCATTAACTATGACC TTCTGAAGACAGAAAATCTGAATGATGATGAGAAACTCAACAATGCAAAATATGCCATCTCTATGGCCCGAAAAA TTGGAGCAAGAGTGTATGCCCTGCCAGAAGACCTGGTTGAAGTGAACCCCAAAATGGTCATGACCGTGTTTGCCT TGCCCGGCACAGATGCTCCAGGGATGATTCAAGCCATTCCAAAGTTCAACTTGGTGACACTCTATAAGATTCCAA AAAGCACATATTAGTGCAGCCAAGTAGCCTCTCCTGTATTTAACAAAAAGTGCTTCATTCTTTGCAGGAGGCCCA TCCAGGTACCCTTCTCGCTTTTGCCATTAGCCAAGGATAGAAGCTGCAGTGGTATTAATTTTGATATAATCTTTC AAACCAGCTTCATGTGGCTTCCCTTTTCTTTGTTCAAGATGAGGGCCAGGAGGGGAAACATCACACCTGCCCTAA ACCCTGTTCCTGGAGGTCAGCATTTGATCTGTTGCAAGCCCCTCTTTCTGTCCCCTCTTCCTACCCTGCCTCCCT TGACTTTGCTCCTCACACTTTTGGAACCATGCCTTCCGGGGGGGCCCATCTCTTCTGGCCGTCCTTGTCTCTGGG CCACTTGGAGTGTGTGATAAATCAGTCAAGCTGTTGAAGTCTCAGGAGTCTCTGGTAGCCTGCAGAAGTAAGCCT CCTCTGCTTTTAACTCTAGAATTTGGGCTTGGACCAGATCTAACATCTTGAATACTCTGCCCTCTAGAGCCTTCA GCCTTAATGGAAGGTTGGATCCAAGGAGGGTGTAATGGAGCATCAAGCCACTCGGCGGCAGCATGGAGCTATAAC TAAGCATCCTTTAGGGTTCTGCCTCTCCAGGCATTTAGCCCTCACATTAGATCTAGTTACTGTGGTATGGCTAAT ACCTGTCAACATTTGGAGGCAATCCTACCTTGCTTTTGCTTCTAGAGCTTAGCATATCTGATTGTTGTCAGGCCA TATTATCAATGTTTACTTTTTTGGTACTATAAAAGCTTTCTGCCACCCCTAAACTCCAGGGGGGACAATATGTGC AGAAATGGTGGAACTGCGTTATGAAGAGCTAATTTACTGGACAAAGAATTCCAAAGCAAAACCAGAACAGTATGA ATTTGAGCAGGTCTCATAGGTTGAGCAATTTCCCCCTAAACCAACTGAAGGCTAAAAAGCAACAGGCCATTGTGA ACCAATGCAAGACGCCCTCTATCATGGTGAAAAGCTCCATCAATGAGGTATCTTCTTTAGTGGTGGTATGTAATG GAACTTAGCCATTITTCAAAGCAATTGAAATGCATTGCTCTGGATCTGTTCCTTGGCAGTGGACTCAGAAAGCCA 

# 4235/6881 FIGURE 3903B

 ${\tt TTGAACTTACTGTAGCCTCAGATGATTTCCCCCCTCCGCCTCCAGGAAGAAGAATGTTACTGCCTTAATAAAAAAATGTAGAAAAGAATGATGCTCAAAATCTTTCCAAAATAAAATGTTCCCTAT$ 

# FIGURE 3904

AAAGCGAGAGTGAGTGGGACCGGAGGGGCGGGCATCATATGGGCGGGGCTGAGGCCGAGGCCCCGGCGGCCATCT TGAGCCCCGCCTTTTACTTCGGCCCGCTTCTTCTGGTCACTCCGCCACCGTAGAATCGCCTACCATTTGGTGCAA GCAAAAAGCAATCAGCAATTGGACAGGAAAAGA<u>ATG</u>GCATTGAAGCAGATTTCCAGCAACAAGTGCTTTGGGGGA TTGCAGAAAGTTTTTGAACATGACAGTGTTGAACTAAACTGCAAAATGAAATTTGCTGTCTACTTACCACCAAAG GCAGAAACAGGAAAGTGCCCTGCACTGTATTGGCTCTCAGGTTTAACTTGCACAGAGCAAAATTTTATATCAAAA TCTGGTTATCATCAGTCTGCTTCAGAACATGGTCTTGTTGTCATTGCTCCAGATACCAGCCCTCGTGGCTGCAAT ATTAAAGGTGAAGATGAGAGCTGGGACTTTGGCACTGGTGCTGGATTTTATGTTGATGCCACTGAAGATCCTTGG AAAACCAACTACAGAATGTACTCTTATGTCACAGAGGAGCTTCCCCAACTCATAAATGCCAATTTTCCAGTGGAT AAATACAAATCTGTGTCAGCATTTGCTCCAATTTGCAACCCTGTACTCTGTCCCTGGGGCAAAAAAGCCTTTAGT GGATATTTGGGAACAGATCAAAGTAAATGGAAGGCTTATGATGCTACCCACCTTGTGAAATCCTATCCAGGATCT CAGCTGGACATACTAATTGATCAAGGGAAAGATGACCAGTTTCTTTTAGATGGACAGTTACTCCCTGATAACTTC  $\verb|ATAGCTGCCTGTACAGAAAAGAAAATCCCCGTTGTTTTTCGATTGCAAGAGGGTTATGATCATAGCTACTTC|\\$ ATTGCAACCTTTATTACTGACCACATCAGACATCATGCTAAATACCTGAATGCATGAAAAAACTCCAAATAAGAG GATTTTATAGTGCTAAAAGGGCTTTATTCTATAGTTGAATCACCTCTGAATAAAGATATAAAACCT

MALKQISSNKCFGGLQKVFEHDSVELNCKMKFAVYLPPKAETGKCPALYWLSGLTCTEQNFISKSGYHQSASEHG LVVIAPDTSPRGCNIKGEDESWDFGTGAGFYVDATEDPWKTNYRMYSYVTEELPQLINANFPVDPQRMSIFGHSM GGHGALICALKNPGKYKSVSAFAPICNPVLCPWGKKAFSGYLGTDQSKWKAYDATHLVKSYPGSQLDILIDQGKD DQFLLDGQLLPDNFIAACTEKKIPVVFRLQEGYDHSYYFIATFITDHIRHHAKYLNA

GGCCGGTGGCGGACTCTGGGGAAA<u>ATG</u>GCTGCGTCTTCGAGTGGTGAGAAGGAGAAGGAGCGGCTGGGAGGCGG TTTGGGAGTGGCGGGTGATACAGCACACGAGAGCGGCTGCTGTCTGCGCTTGAGGACTTGGAGGTCCTGTCTAG GGAACTTATAGAAATGCTGGCAATTTCAAGAAACCAAAAGTTGTTACAGGCTGGAGAGAAAACCAGGTCCTGGA GTTGTTAATTCACCGAGATGGGGAATTTCAAGAACTAATGAAATTGGCACTTAATCAGGGAAAAATTCATCATGA AATGCAAGTTTTAGAAAAAGAAGTAGAGAAGAGAGACAGTGATATTCAGCAGCTACAAAAACAGCTAAAAGGAAGC AGAACAAATACTGGCAACAGCTGTTTACCAAGCGAAGGAGAAACTCAAGTCAATAGAAAAAGCAAGAAAAGGTGC TATCTCCTCTGAAGAAATAATTAAGTATGCACATAGGATCAGTGCAAGTAATGCTGTATGTGCTCCACTGACCTG GGTTCCAGGGGACCCCCGGAGACCCTACCCAACTGATTTAGAGATGAGAAGTGGGTTACTGGGTCAGATGAACAA TCCTTCCACTAATGGCGTGAATGGCCATTTACCAGGAGATGCACTTGCAGCAGGAAGATTGCCAGATGTCCTTGC TCCACAGTATCCATGGCAGTCAAATGACATGTCGATGAATATGTTACCACCAAATCATAGTAGTGACTTTTTGTT GGAACCTCCTGGGCATAATAAAGAAAATGAAGATGATGTAGAGATTATGTCAACGGACTCCTCAAGCAGTAGTAG  $\texttt{TGAGTCTGAT} \underline{\textbf{TGA}} \texttt{AAAAACTTAAAAGACAATATACAGAATTGAATACTGTAGAATTCTGTTTCTTTAACAGTAGCA$ GGGAAATGTAAACTACAGGTGACAAAAAATACCCAGGTAAACACTGGCTTTGGTAGAATTGTGCAGTCATTAAAA GTCAAAATTTTTTGACTTTCTTTTTAAAGCCAAAGACCATAGTTTTAGTTTTAAGCCACTAGGTAGATATTTAGG GGAATAGTCAAAATTTACTGTTGAAAAAGCAGTTGCTATGTGCTTTCTTACCCTGTTCTGTTCCAGTTTTGCTGG ATTTGTACATAGCCATTCTAGAAATAGAGTTGAGGGAAATTATCCATATACATATCACTAATAGGCTTCTTGGAA TTATTTAGAAAAGCATTTTTAAACTGGCAGTGGATGACTGAATAGGCATCATATTTCTTTTTTGTGTGTCATTTAA AAGTAACAAAAACTGCCATTTGACAGTAAAGGCTCTTGGCTTCTGTTGGAGGCATGGGAAATTGTCTCAATTTGT 

MAASSSGEKEKERLGGGLGVAGGNSTRERLLSALEDLEVLSRELIEMLAISRNQKLLQAGEENQVLELLIHRDGE FQELMKLALNQGKIHHEMQVLEKEVEKRDSDIQQLQKQLKEAEQILATAVYQAKEKLKSIEKARKGAISSEEIIK YAHRISASNAVCAPLTWVPGDPRRPYPTDLEMRSGLLGQMNNPSTNGVNGHLPGDALAAGRLPDVLAPQYPWQSN DMSMNMLPPNHSSDFLLEPPGHNKENEDDVEIMSTDSSSSSSSESD 1

# FIGURE 3908

GCGAGATCCCTACCGCAGTAGCCGCCTCTGCCGCCGCGGAGCTTCCCGAACCTCTCAGCCGCCCGGAGCCGCTCC CGGAGCCCGGCCGTAGAGGCTGCAATCGCAGCCGGGAGCCCGCAGCCCGCGCCCCCGAGCCCGCCCCCTTCG AGCCCAAGAGCGGCGAGGAGGCGCTCATCATCCCCCCGACGCCGTCGCGGTGGACTGCAAGGACCCAGATGATG TGGTACCAGTTGGCCAAAGAAGAGCCTGGTGTTGGTGCATGTGCTTTGGACTAGCATTTATGCTTGCAGGTGTTA TTCTAGGAGGAGCATACTTGTACAAATATTTTGCACTTCAACCAGATGACGTGTACTACTGTGGAATAAAGTACA TCAAAGATGATGTCATCTTAAATGAGCCCTCTGCAGATGCCCCAGCTGCTCTCTACCAGACAATTGAAGAAAATA TTAAAATCTTTGAAGAAGAAGAAGTTGAATTTATCAGTGTGCCTGTCCCAGAGTTTGCAGATAGTGATCCTGCCA ACATTGTTCATGACTTTAACAAGAAACTTACAGCCTATTTAGATCTTAACCTGGATAAGTGCTATGTGATCCCTC TGAACACTTCCATTGTTATGCCACCCAGAAACCTACTGGAGTTACTTATTAACATCAAGGCTGGAACCTATTTGC CTCAGTCCTATCTGATTCATGAGCACATGGTTATTACTGATCGCATTGAAAACATTGATCACCTGGGTTTCTTTA TTTATCGACTGTCATGACAAGGAAACTTACAAACTGCAACGCAGAGAAACTATTAAAGGTATTCAGAAACGTG  $AAGCCAGCAATTGTTTCGCAATTCGGCATTTTGAAAACAAATTTGCCGTGGAAACTTTAATTTGTTCT<math>\underline{\mathbf{TGA}}$ ACAG TCAAGAAAACATTATTGAGGAAAATTAATATCACAGCATAACCCCACCCTTTACATTTTGTGCAGTGATTATTT TTTAAAGTCTTCTTTCATGTAAGTAGCAAACAGGGCTTTACTATCTTTTCATCTCATTAATTCAATTAAAACCAT TACCTTAAAATTTTTTCTTTCGAAGTGTGGTGTCTTTTATATTTGAATTAGTAACTGTATGAAGTCATAGATAA TAGTACATGTCACCTTAGGTAGGAAGAATTACAATTTCTTTAAATCATTTATCTGGATTTTTATGTTTTATT TTTGTAGTTGTTAGTTGCCCTGCTACCTAGTTTGTTAGTGCATTTGAGCACACATTTTAATTTTCCTCTAATTAA AATGTGCAGTATTTTCAGTGTCAAATATATTTAACTATTTAGAGAATGATTTCCACCTTTATGTTTTAATATCCT AGGCATCTGCTGTAATAATATTTTAGAAAATGTTTGGAATTTAAGAAATAACTTGTGTTACTAATTTGTATAACC CATATCTGTGCAATGGAATATAAATATCACAAAGTTGTTTAACTAGACTGCGTGTTGTTTTTCCCGTATAATAAA ACCAAAGAATAGTTTGGTTCTTCAAATCTTAAGAGAATCCACATAAAAGAAGAAACTATTTTTTAAAAATTCACT TCTTTGTGGATACTATTAAAGTAACATTTAAGCCTCAACCTTG

MVKVTFNSALAQKEAKKDEPKSGEEALIIPPDAVAVDCKDPDDVVPVGQRRAWCWCMCFGLAFMLAGVILGGAYL YKYFALQPDDVYYCGIKYIKDDVILNEPSADAPAALYQTIEENIKIFEEEEVEFISVPVPEFADSDPANIVHDFN KKLTAYLDLNLDKCYVIPLNTSIVMPPRNLLELLINIKAGTYLPQSYLIHEHMVITDRIENIDHLGFFIYRLCHD KETYKLQRRETIKGIQKREASNCFAIRHFENKFAVETLICS

TTTAGTAAATCACACAAAAATCCAGCAGAAATTGTGAAAATCCTGAAAGACAATTTGGCCATTTTGGAAAAGCAA  ${\tt GACAAAAAGACAGACAAGGCTTCAGAAGAAGTGTCTAAATCACTGCAAGCA} \underline{{\tt ATG}}{\tt AAAGAAATTCTGTGTGGTACA}$ AACGAGAAAGAACCCCCAACAGAAGCAGTGGCTCAGCTAGCACAAGAACTCTACAGCAGTGGCCTGCTGACA AGACAGATAGGCACTCGGAGTCCTACTGTGGAGTATATTAGTGCTCATCCTCATATCCTGTTTATGCTCCTCAAA GGATATGAAGCCCCACAGATTGCCTTACGTTGTGGGATTATGCTGAGAGAATGTATTCGACATGAACCACTTGTC AAAATCATCCTCTTTTCTAATCAATTCAGAGATTTCTTTAAGTACGTGGAGTTGTCAACATTTGATATTGCTTCA GATGCCTTTGCTACTTTCAAGGATTTACTAACCAGACATAAAGTGTTGGTAGCAGACTTCTTAGAACAAAATTAC GACACTATTTTTGAAGACTATGAGAAATTGCTTCAGTCTGAGAATTATGTTACTAAGAGACAGTCTTTAAAGCTG CTAGGGGAGCTGATCCTGGACCGTCACAACTTTGCCATCATGACAAGTATATCAGCAAGCCGGAGAACCTGAAA CTCATGATGAACCTCCTTCGGGATAAAAGTCCCAACATCCAGTTTGAAGCCTTTCATGTTTTTAAGGTGTTTGTG GCCAGTCCTCACAAAACACAGCCTATTGTGGAGATCCTGTTAAAAAATCAGCCCAAACTCATTGAGTTTCTGAGC AGCTTCCAAAAAGAAAGGACGGATGATGAGCAGTTCGCTGACGAGAAGAACTACTTGATTAAACAGATCCGAGAC  $\verb|TTGAAGAAAACGGCCCCT| \verb|TGA| | AGAGCTCCCCGGCCCCTGTCACAGTCAGTCTCATTTGTCCAGTTTGTACAG$ TGTGTCATTTCAGAAAGTCATCATTCTTGGGAAGACTTTGGAGGTGCCTATTTTTTCTGCTGTAATTGTTCTGGG TAGATGGAGTATAAACATTTGAATGGAAAAAAATTAACCTAGAATAATATTCATTTTAGTCAAGTCTGTGATT ATTTATGTGAAATGAGAACCATTGTATCAGATGTTGATAAAAGCAATTTTAACTTGCAGATGTGAGCCCCTGGGC ACAATGAGCCGCTAAATGGGAGCTCAATTGACAGGCATCACCAAGTCTTCAAGGAGGACTGAGTTCTCAGGGGAG GAGATCCCAGAAGGTAACGTTAATGTTTTCAGTCATTGTGTGTCCTTTGTTGCTGCCAATGTCTTTGGACTGTAA TCAGTGCATCCACACCTCCCAGGATCCAGTGCTCCCTCTCAGCTCAGTCTCCCCTCTCTCCCTGTCCTGCATTCC ATCCCAGCTCCTCAGCATGGCCTCAGTGGGCGCACCCATGCCTCCCGCAGTCCAGGTGAGCAGGGGAGCAACTGA TCCTTCATAATGGTCATGGGTGAATGCTTTCTGCTGTAAGTGTCTTTTAGAGTAGGAATCAGCATAGTGGGATGC CCAGCAGGCACAAACCATGGGTCCAGGGAGTCTCAGCGGGGAACTTCTATCAGTATCAATAACCATTGGAAGGAG AAATGATTCATGTGTGAAAAAATTCTCAGATCCATCAATAAATTTTTTTCAG

MKEILCGTNEKEPPTEAVAQLAQELYSSGLLVTLIADLQLIDFEGKKDVTQIFNNILRRQIGTRSPTVEYISAHP HILFMLLKGYEAPQIALRCGIMLRECIRHEPLVKIILFSNQFRDFFKYVELSTFDIASDAFATFKDLLTRHKVLV ADFLEQNYDTIFEDYEKLLQSENYVTKRQSLKLLGELILDRHNFAIMTKYISKPENLKLMMNLLRDKSPNIQFEA FHVFKVFVASPHKTQPIVEILLKNQPKLIEFLSSFQKERTDDEQFADEKNYLIKQIRDLKKTAP

# FIGURE 3912

CACAAAGGCACCAAACCACAAAACGTCACACGTAAACATCATACGTGGCAACCACAAGCCAATCAGTTGGATATT TCTGCCCCAAAGATGTCGAATATAATGTCCTGTACTTTGCACAATCAGAGAATATAGCTGCTCATGAGAATTGTT TGCTGTATTCTTCAGGACTTGTGGAATGTGAGGATCAGGATCCACTTAATCCTGATAGAAGTTTTGATGTGGAAT CAGTAAAGAAAGAAATCCAGAGAGGAAGGAAGTTGAAATGCAAATTTTGTCATAAAAGAGGAGCCACCGTGGGAT GTGATTTAAAAAACTGTAACAAGAATTACCACTTTTTCTGTGCCAAGAAGGACGACGCAGTTCCACAGTCTGATG GAGTTCGAGGAATTTATAAACTGCTTTGCCAGCAACATGCTCAATTCCCGATCATCGCTCAAAGTGCTAAATTTT CAGGAGTGAAAAGAAAAAGAGGAAGGAAGAAACCCCTCTCAGGCAATCATGTACAGCCACCCGAAACAATGAAAT GTAATACATTCATAAGACAAGTGAAAGAAGAGCATGGCAGACACAGATGCAACTGTGAAAGTTCCTTTCTTA AGAAATGCAAGGGAAGCAGGACTTCT<u>TAA</u>TTACTTACTTGAAGAAATATTAGACAAAGTTCATTCAATTCCAGAA AAACTCATGGATGAGACTTACTTCAGAATCAGACTATGAAGAAATCGGGAGTGCACTTTTTGACTGTAGATTGTT CGAAGACACATTTGTAAATTTTCAAGCAGCAATAGAGAAAAAAATTCATGCATCTCAACAAAGGTGGCAGCAGTT GAAGGAAGAGTTGAGCTACTTCAGGACTTAAAACAAACCTTGTGCTCTTTTCAAGAAAATAGAGATCTTATGTC AAGTTCTACATCAATATCATCCCTGTCTTATTAGGGATTACCATTTCCTAAGCCAAGAGTCATGTCAAATTGCAA TCAGGCTCAAAACCAGAGACCAGGCTGTGAAATCCACACATCTTTAGAACTAGTCGTCTCCTCTTGGCCTCAGCA TCCCAGCACCTAGTATGCTCAGTAAATGTTTGTGGAATAAGTGCATAAAATGTTCTTAACCTTTGATTCTACTTA CAGCCCATGATAGCCTCTTAGATATAATAAATTTGGATTATACTAAAA

 ${\tt MEKRTCALCPKDVEYNVLYFAQSENIAAHENCLLYSSGLVECEDQDPLNPDRSFDVESVKKEIQRGRKLKCKFCHKRGATVGCDLKNCNKNYHFFCAKKDDAVPQSDGVRGIYKLLCQQHAQFPIIAQSAKFSGVKRKRGRKKPLSGNHVQPPETMKCNTFIRQVKEEHGRHTDATVKVPFLKKCKGSRTS$ 

# FIGURE 3914

# FIGURE 3915

MGAEWELGAEAGGSLLLCAALLAAGCALGLRLGRGQGAADRGALIWLCYDALVHFALEGPFVYLSLVGNVANSDG LIASLWKEYGKADARWVYFDPTIVSVEILTVALDGSLALFLIYAIVKEKYYRHFLQITLCVCELYGCWMTFLPEW LTRSPNLNTSNWLYCWLYLFFFNGVWVLIPGLLLWQSWLELKKMHQKETSSVKKFQ

PCT/US2003/028547

## 4248/6881 FIGURE 3916

PCT/US2003/028547

#### 4250/6881 FIGURE 3918

 $\tt TTTCTGCCCGTGGACGCCGCTGAAGAAGCATCGTTAAAGTCTCTCTTCACCTTGCCGTC\underline{ATG}{} \texttt{TCTAAGTCAGCGT}$ CTCCAAAAGAGCCCGAACAGCTGAGGAAGCTCTTCATTGGAGGGTTGAGCTTTGAAACAACTGATGAGAGCCTGA GGAGCCATTTTGAGCAATGGGGAACGCTCACAGACTGTGTGGTAATGAGAGATCCAAACACCAAGCGCTCCAGGG GCTTTGGGTTTGTCACATATGCCACTGTGGAGGAGGTGGATGCAGCTATGAATACAACGCCACAAAGGTGGATG GAAGAGTTGTGGAACCAAAGAGAGCTGTCTCCAGAGAAGATTCTCAAAGACCAGGTGCCCACTTAACTGTGAAAA AGATATTTGTTGGTGGCATTAAAGAAGACACTGAAGAACATCACCTAAGAGATTATTTTGAACAGTATGGAAAAA TTGAAGTAATTGAAATCATGACTGACCGAGGCAGTGGCAAGAAAAGGGGCTTTGCCTTTGTAACCTTTGACGACC ATGACTCCGTGGATAAGATTGTCATTCAGAAATACCATACTGTGAAGGGCCACAACTGTGAAGTTAGAAAAGCCC TGCCAAAGCAAGAGATGGCTAGTGCTTCATCCAGCCAAAGAGGTCGAAGGGGTTCTGGAAACTTTGGTGGTGGTC GTGGAGATGGTTTCGGTGGGAATGACAACTTTGGTCGTGGAGGAAACTTCAGTGGTCGTGGTGGCTTTGGTGGCA GCTGTGGTGGTGGTATATGGTGGCAGTGGGGATGGCTATAATGGATTTGGTAATGATGGAAGCAATTTTGGAG GTGGTGGAAGCTACAATGATTTTGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCATGAAGGGAAGAATT TTGGAGGCAGAAGCTCTGGCCCCTATGGCGGTGGAGGCCAATACTTTGCAAAACCACAAAACCAAGGTGGCTATG GAGCCAGAGAAGTGACAGGGAAGCTACAGGTTACAACAGATTTGTGAACTCAGCCAAGCACAGTGGTGGCAGGGC CTAGCTGCTACAAAGAAGACATGTTTTAGACAAATACTCATGTGTATGGGCAAAAAACTCGAGGACTGTATTTGT TAGATTTTTTTTTTTGCACCCATGCTGTTGATTGCTAAATGTAATAGTCTGATTGTGACGCTGAATAAATGTCT

# FIGURE 3919

MSKSASPKEPEQLRKLFIGGLSFETTDESLRSHFEQWGTLTDCVVMRDPNTKRSRGFGFVTYATVEEVDAAMNTT PHKVDGRVVEPKRAVSREDSQRPGAHLTVKKIFVGGIKEDTEEHHLRDYFEQYGKIEVIEIMTDRGSGKKRGFAF VTFDDHDSVDKIVIQKYHTVKGHNCEVRKALPKQEMASASSSQRGRRGSGNFGGGRGDGFGGNDNFGRGGNFSGR GGFGGSCGGGGYGGSGDGYNGFGNDGSNFGGGGSYNDFGNYNNQSSNFGPMKGGNFGGRSSGPYGGGGQYFAKPQ NOGGYGVSSSSSSYGSGRRF

TGTAGTGGAACCAAAGAGAGCTGTTTCTAGAGAGGATTCTGTAAAGCCCGTTGCCCATCTAACAGTGAAGAAAAT TTTTGTTGGTGGTATTAAAGAAGATACAGAAGAATATAATTTGAGAGACTACTTTGAAAAGTGTAGCAAGATTGA TATAATTGATAAAATTGTTGTTCAGAAATACCACACTATTAATGGGCATAATTGTGAAGTGAAAAAGGCCCTTTC TAAACAAGAGATGCAGTCTGCTGGATCACAGAGAGGTCATGGAGGTGGATCTGGCAATTTTATGGGTCGCGGAGG TGGTGGCAGCAGAGGAAGTTATGGAAGAGGTGATGGTGGATATAATAGATTTGGACGTGACGGTGGCAACTATGG TGGTGGTCCTGGTTATAGTAGTAGAGGGGGCTATGGTGGTGGTGGAACAGGATATGGAAACCAAGGTGGTGGATA TGGTGGAGGTGGTGGAGGATATGATGGTTACAATGAAGGAGGAAATTTTGGCGGTGGTAACTATGGTGGTGGTGG GAACTATAATGATTTTGGAAATCATAGTGGACAACAGCAATCAAATTATGGACCCATGAAAGGGGGCAGTTTTGG TGGAAGAAGCTCGGGCAGTCCCTATGGTGGTGGTTATGGATCTGGTGGTGGAAGTGGTGGATATGGTAGCAGAAG  ${\tt GTTC} \underline{{\tt TAA}}{\tt AAACAGCAGAAAAGGGCTACAGTTCTTAGCAGGAGAGAGCAAGGAGTTGTCAGGAAAGCTGCAGGT}$ TACCTCGAGAGAGTTGTCCCAAATGCATTAGAGGAACTGTAAAAATCTGCCACAGAAGGAACAATGATCCATAGT CAGAAAATTTACTGCAGCTTAAACAGGAAACCCTTCTTGTTCAGGACTCTCATAGCCACAGTTTGCAAAAAGTGC AGCTATTGATTAATGCAATATAGTGTCAACTAGATGTAGATTCCTGAGGTCTTTTATCTGTTGTAGCTTTGTCTT TTTCTTTTCTTTTCATTACATCAGGTATATTGCCCTGTAAATTGTGGTAGTGGTACCAGGAATAAAAAATTAAG GAATTTTTAACTTTTCAA

# FIGURE 3922

MEDRQSGKKRGFAFVTFDDHDIIDKIVVQKYHTINGHNCEVKKALSKQEMQSAGSQRGHGGGSGNFMGRGGNFGG AGGNFGLGGNFGGRGGYGGGGGGSRGSYGRGDGGYNRFGRDGGNYGGGPGYSSRGGYGGGTGYGNQGGGYGGG GGYDGYNEGGNFGGGNYGGGGNYNDFGNHSGQQQSNYGPMKGGSFGGRSSGSPYGGGYGSGGGSGGYGSRRF

GGTACGTGCGCTCGCGGTTCTCTCGCGGAGGTCGGCGGTGGCGGGGGGGCTCCGGAGAGCCTGAGAGCACGGT GGGGCGGGGGGAGAAAGTGGCCGCCCGGAGGACGTTGGCGTTTACGTGTGGAAGAGCGGAAGAGTTTTGCTTT TCGTGCGCCCTTCGAAAACTGCCTGCCGCTGTCTGAGGAGTCCACCCGAAACCTCCCCTCCTCCGCCGGCAGCC CCGCGCTGAGCTCGCCGACCCAAGCCAGCGTGGGCGAGGTGGGAAGTGCGCCCGACCCGCGCCTGGAGCTGCGCC AGGACGAGCCGGTGTTCGCGCAGCTCAAGCCGGTGCTGGGCGCCGCGAATCCGGCCCGCGACGCGCGCTCTTCC CCGGCGAGGAGCTGAAGCACGCCACCACCGCCCGCAGGCGCAGCCCGCGCGCAGGCCCGCAGCCGGCCC AGCCGCCGCCACCGGCCCGCGCTGCCTCCAGAGGACCTGGTCCAGACAAGATGTGAAATGGAGAAGTATCTGA CACCTCAGCTTCCTCCAGTTCCTATAATTCCAGAGCATAAAAAGTATAGACGAGACAGTGCCTCAGTCGTAGACC AGTTCTTCACTGACACTGAAGGGTTACCTTACAGTATCAACATGAACGTCTTCCTCCCTGACATCACCTGA GAACTGGCCTCTACAAATCCCAGAGACCGTGCGTAACACACATCAAGACAGAACCTGTTGCCATTTTCAGCCACC AGACCGCAGCTCCAGAGGTGAACAATATTTTCATCAAACAAGAACTTCCTACACCAGATCTTCATCTTTCTGTCC CTACCCAGCAGGGCCACCTGTACCAGCTACTGAATACACCGGATCTAGATATGCCCAGTTCTACAAATCAGACAG AGACTGCAGTGAAACAATTCCAGGGCATGCCCCCTTGCACATACACAATGCCAAGTCAGTTTCTTCCACAACAGG CCACTTACTTTCCCCCGTCACCACCAAGCTCAGAGCCTGGAAGTCCAGATAGACAAGCAGAGATGCTCCAGAATT TAACCCCACCTCCATCCTATGCTGCTACAATTGCTTCTAAACTGGCAATTCACAATCCAAATTTACCCACCACCC TGCCAGTTAACTCACAAAACATCCAACCTGTCAGATACAATAGAAGGAGTAACCCCGATTTGGAGAAACGACGCA TCCACTACTGCGATTACCCTGGTTGCACAAAAGTTTATACCAAGTCTTCTCATTTAAAAAGCTCACCTGAGGACTC ACACTGGTGAAAAGCCATACAAGTGTACCTGGGAAGGCTGCGACTGGAGGTTCGCGCGATCGGATGAGCTGACCC GCCACTACCGGAAGCACACAGGCGCCAAGCCCTTCCAGTGCGGGGTGTGCAACCGCAGCTTCTCGCGCTCTGACC ACCTGGCCCTGCATATGAAGAGGCACCAGAACTGAGCACTGCCCGTGTGACCCGTTCCAGGTCCCCTGGGCTCCC GGAAATGTATATTTTGTATATTTGAGAAAACAGGGAATACATTGTATTAATACCAAAGTGTTTGGTCATTTTAAG AATCIGGAATGCTTGCTGTAATGTATATGGCTTTACTCAAGCAGATCTCATCTCATGACAGGCAGCCACGTCTCA ACATGGGTAAGGGGTGGGGGGGGGGGGGTGTGTGCAGCGTTTTTACCTAGGCACCATCATTTAATGTGACAGT GTTCAGTAAACAAATCAGTTGGCAGGCACCAGAAGAAGAATGGATTGTATGTCAAGATTTTACTTGGCATTGAGT . AGTTTTTTCAATAGTAGGTAATTCCTTAGAGATACAGTATACCTGGCAATTCACAAATAGCCATTGAACAAATG TGTGGGTTTTTAAAAATTATATACATATATGAGTTGCCTATATTTGCTATTCAAAATTTTGTAAATATGCAAATC AGCTTTATAGGTTTATTACAAGTTTTTTAGGATTCTTTTGGGGAAGAGTCATAATTCTTTTGAAAATAACCATGA ATCATTCAAATGAACTTTAAAAAAGCAAATTTCATGCACTGATTAAAATAGGATTATTTTAAATACAAAAGGCAT TTTATATGAATTATAAACTGAAGAGCTTAAAGATAGTTACAAAATACAAAAGTTCAACCTCTTACAATAAGCTAA ACGCAATGTCATTTTTAAAAAGAAGGACTTAGGGTGTCGTTTTCACATATGACAATGTTGCATTTATGATGCAGT TTCAAGTACCAAAACGTTGAATTGATGATGCAGTTTTCATATATCGAGATGTTCGCTCGTGCAGTACTGTTGGTT AAATGACAATTTATGTGGATTTTGCATGTAATACACAGTGAGACACAGTAATTTTATCTAAATTACAGTGCAGTT TAGTTAATCTATTAATACTGACTCAGTGTCTGCCTTTAAATATAAATGATATGTTGAAAACTTAAGGAAGCAAAT GCCAAAAGGGGTCTTAATTGAAATGAAAATTTAATTTTGTTTTTAAAATATTGTTTATCTTTATTTTTTTGTGG CTTAAAAGATGTAAATAGATGACAAACGATGTAAATAATTTTGTAAGAGGCTTCAAAATGTTTATACGTGGAAAC ACACCTACATGAAAAGCAGAAATCGGTTGCTGTTTTGCTTCTTTTTCCCTCTTATTTTTGTATTGTGGTCATTTC CTATGCAAATAATGGAGCAAACAGCTGTATAGTTGTAGAATTTTTTGAGAGAATGAGATGTTTATATATAACGA CAATTTTTTTTTGGAAAATAAAAAGTGCCTAAAAG

# FIGURE 3925

AGGAAAGCTTCTTTCTGGGCAGCCAGAGCCGCAAAGGTGGAGCCGCGTTGGCGCCCCTCCGCGGGACCAGCGCCTC GGATGCGGGCGGAGCGCGGGGGGCCGCGGCTGCGGGAGCGCGAAGCGGGGGGCCAGGGGGCCCTCATGTGAGAGC @GCGGGACCTGCAGCCGCCGCCGTCCCCGGAGCACGGGGTGGTGTGTGGGGGGAAGCCGCCCCGGCAGCAGGATG AAACGAGGAGGAAGAGATAGTGACCGTAATTCATCAGAAGAAGGAACTGCAGAGAAATCCAAGAAACTGAGGACT ACAAATGAGCATTCTCAGACTTGTGATTGGGGTAATCTCCTTCAGGACATTATTCTCCAAGTATTTAAATATTTG CCTCTTCTTGACCGGGCTCATGCTTCACAAGTTTGCCGCAACTGGAACCAGGTATTTCACATGCCTGACTTGTGG AGATGTTTTGAATTTGAACTGAATCAGCCAGCTACATCTTATTTGAAAGCTACCCATCCAGAGCTGATCAAACAG ATTATTAAAAGACATTCAAACCATCTACAATATGTCAGCTTCAAGGTGGACAGCAGCAAGGAATCAGCTGAAGCA GCTTGTGATATCTATCGCAACTTGTGAATTGCTCTTTAAAAACACTTGGACTTATTTCAACTGCTCGACCAAGC TTTATGGATTTACCAAAGTCTCACTTTATCTCTGCACTGACAGTTGTGTTCGTAAACTCCAAATCCCTGTCTTCG CTTAAGATAGATGATACTCCAGTAGATGATCCATCTCTCAAAGTACTAGTGGCCAACAATAGTGATACACTCAAG CTGTTGAAAATGAGCAGCTGTCCTCATGTCTCCCAGCAGGTATCCTTTGTGTGGGCTGATCAGTGTCACGGCTTA AGAGAACTAGCCCTGAACTACCACTTATTGAGTGATGAGTTGTTACTTGCATTGTCTTCTGAAAAACATGTTCGA CCCTTCTTTCGCTATGAAATACCTGCCACCCATCTGTACTTTGGGAGATCAGTAAGCAAAGATGTGCTTGGCCGT GTGGGAATGACATGCCCTAGACTGGTTGAACTAGTAGTGTGCAAATGGATTACGGCCACTTGATGAAGAGTTA ATTCGCATTGCAGAACGTTGCAAAAATTTGTCAGCTATTGGACTAGGGGAATGTGAAGTCTCATGTAGTGCCTTT GTTGAGTTTGTGAAGATGTGTGGTGGCCGCCTATCTCAATTATCCATTATGGAAGAAGTACTAATTCCTGACCAA AAGTATAGTTTGGAGCAGATTCACTGGGAAGTGTCCAAGCATCTTGGTAGGGTGTGGTTTCCCGACATGATGCCC ACTTGGTAAAAACTGCATGATGAATAGCACCTTAATTTCAAGCAAATGTATTATAATTAAAGTTTTATTTGCTGT CGGAAGACCCATGAATGAGTTTTGGTCAGAAAATTCCACTTGTTTCCTTAGTGTAATAGCAGTCATATCTCCGAA TTTTTTTTAATGTGGTTCGGATGTGAAATAACCAGTTATACGTATTAAACAGTTTACAGTCTAAAGGAAACAAAA TGTAAACTTGACATTTTAGGGTCTTCAGTTACACATACACCTGTTATAAGGTGTTTAATATAGCTCAGGAAAGTG AGCATTTTGTGAGAAAAATGAATATCATATCTAATGGAAAAGATTGGATGAATGTTCTCAAATGTTACAAAGC TGTTTAAAGAAAAAGGTATATAAGTAATCAGAACACTTAGAAGACTGATAGATGTCACACAGTGGTATTATAG AAGGATAATACAGAGCCAAGATCAAATTAAAAGACAATAAATGGAACAGAAGGGAGGCAGTGTTTAGCTTTGTAT TGAGGCACTGTATGTAAAGTAAGGAATGCTTTACTAGTTCTCCTTGGTTTTATCTTTGTTTAAACTAGCTTTAAA TGGAATTACATAGTTATGTAAGTAAAATTTTTAAAAATCATAAAGGGAGCACCATTGTACAGTCTAGCATAAACA GCAAATTTTAAAGAGGACATATTTAAGTTCATAATCATATTTTTCAGTAAATATTGCTCAGTGAACTGGAAAACT TTAATAGAAAAATGTCTGCAGTTTTGTGATTGTTAATTTGGTTAAACCGATATTTTATATTATTTAAGTTAGGTA ACATTTTATATTACTTTCATATGAATAAAAGTAATCCATGCATTGTAGAGTCTATAAAATGTTGAGTTTTAAAAG ATGATATAAACTTTGATGCTGGGCACTAGTGCTAGTAGATATTACTACCCTCCTGAGGGAAATCAGAAATGATTT AACCCCGGTGGAATACATTAATTCTTAAAGCGGCTCTTTTCAGTGGTGTGACTTTTAGATTGTGTCTCAGTGGTT GAGGAAGCTAACAGTCTTAGATCTACTTTTAAAACGGATGGCCTTCTTAAGAATAAAGCAAAAGGTGATTTTCTA CATAATTTTTGCTTTCCAAAAGTGATGATATGCTCTCCTACAGCAACATATGAGAAGAAAAAAGGCTTATCTAGA TTCGAAAATTAACAGCAATTATAGTAATATATCCCCTCCTTCTAAATAGTAAAAAGCTCTGATTGTACAAGAATT ACCTGTGCTAGTCAAGTTGTTGTTTTTCCTTGAACAACTTTGGAAAAATGGATTTGACAGTACATAATCAGTTCT ACTAACCAAAGCTTGTATTTGGAAATTTACTTTTTGTACAAATTGAATTATAATGCTTAAAAATACTTTGTCAC TTTATAAGCAAAATGCATAGTACTTAATTTGTTTATACTGTAAAGTATATGTTAAATGCTTTTATCACTTTGAGA ATAAAAAGTTACTAATGC

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# 4259/6881 FIGURE 3927

MSDAAVDTSSEITTKDLQEKKEVVEEAENGRDAPANGNANEENGEQEADNEVDEEEEEGGEEEEEEGDGEEEDG DEDEEAETATGKRAAEDDEDDTRSPPPNPNHENLQQGRKKEPKLPRPCFFS

TCACCGGCGTGCCCCACCATGTCAGACGCAGCCGTAGACGCCAGCTCCGAAATCACCATCAAGGACTTAAAGGAG AAGAAGGAAGTTGTGGAAGAGGCAGAAAATGGAAGAGACGCCCCTGCTAACGGGAATGCTAATGAGGAAAATGGG GATGGTGAGGAAGAGGATGGAGATGAAGATGAGGAAGCTGAGTCACCTACGGGCAAGCGGGCAGCTGAAGATGAT GAGGATGACGATGTCGATACCAAGAAGCAGAAGACCGACGAGGATGACTAGACAGCAAAAAAAGGAAAAGTTAAAC TAAAAAAAAGGCCGCCGTGACCTATTCACCCTCCACTTCCCGTCTCAGAATCTAAACGTGGTCACCTTCAAGTA GAGAATTTGCAACAGGGGAGGAAAAAAGAACCAAAACTTCCAAGGCCATGCTTTTTTTCTTAAAAGTACTTTAAA AAGGAAATTTGTTTGTATTTTATTTACATTTTATATTTTTATACATATTGTTAGGGTCAGCCATTTTTAATGA TCTCGGATGACCAAACCAGCCTTGGGAGCGTTCTGTCCTACTTCTGACTTTACTTGTGGTGTGACCATGTTCATT ATAATCTCAAAGGAGAAAAAAACCTTGTAAAAAAAAGCAAAAATGACAACAGAAAAAACAATCTTATTCTGAGCATT CCAGTAACTTTTTTGTGTATGTACTTAGCTGTACTATAAGGAGTTGGTTTGTATGAGATGGTTAAAAAAGGCCAAA GTGAAACAATGTTGTCCAACAATAAACAGGAATTTTATTTTGCTGAGTTGTTCT

 ${\tt MSDAAVDASSEITIKDLKEKKEVVEEAENGRDAPANGNANEENGEQEADSEVDEEEEEGGEEEEEEGDGEEED} \\ {\tt GDEDEEAESPTGKRAAEDDEDDDVDTKKQKTDEDD} \\$ 

ATGGCGGCGGCGGCGGAGCAGCAACAGTTCTACCTGCTCCTGGGAAACCTGCTCAGCCCCGACAATGTGGTC CGGAAACAGGCAGAGGAAACCTATGAGAATATCCCAGGCCAGTCAAAGATCACATTCCTCTTACAAGCCATCAGA AATACAACAGCTGCTGAAGAGGCTAGACAAATGGCCGCCGTTCTCCTAAGACGTCTCTTGTCCTCTGCATTTGAT GAAGTCTATCCAGCACTTCCCTCTGATGTTCAGACTGCCATCAAGAGTGAGCTACTCATGATTATTCAGATGGAA ACACAATCTAGCATGAGGAAAAAAGTTTGTGATATTGCGGCAGAACTGGCCAGGAATTTAATAGATGAGGATGGC GCCCTTCACATTTTCTGGAACTTTCCTGGAATTTTTGGGAACCAGCAACAACACTATTTAGATGTCATCAAACGA ATGTTAGTTCAGTGTATGCAAGATCAGGAACACCCGTCGATCAGGACGTTATCTGCTAGAGCTACAGCTGCATTT ATACTTGCAAATGAGCATAATGTTGCTCTGTTCAAACATTTTGCAGACTTGCTACCGGGATTCCTACAGGCGGTA AATGACTCGTGCTACCAGAATGATGATTCTGTCCTAAAATCCCTCGTTGAGATTGCAGATACTGTTCCAAAGTAT TTGCGTCCTCACTTGGAAGCAACTCTACAGCTAAGTCTAAAGTTGTGTGGAGACACTAGCCTCAACAATATGCAA CGCCAGCTTGCCCTTGAAGTGATCGTCACCCTCTCTGAGACTGCAGCTGCTATGTTAAGAAAACATACCAATATT GTTGCACAGACTATTCCTCAGATGTTAGCAATGATGGTTGATTTGGAAGAAGATGAGGACTGGGCAAATGCAGAT GAACTAGAAGATGATTTTGACAGCAATGCAGTTGCAGGCGAGAGTGCTCTAGATCGAATGGCTTGCGGACTT GGTGGAAAGCTCGTTCTGCCGATGATCAAGGAACACATTATGCAAATGCTTCAAAATCCTGACTGGAAATACCGG GTAAATTTTGTTTTACTTTTTCTCCAGGATCCTCATCCAAGAGTAAGGTATGCAGCCTGTAATGCCGTGGGACAG ATGGCTACAGATTTTGCACCTGGTTTCCAAAAGAAATTTCATGAGAAGGTGATTGCAGCTCTGCTGCAGACCATG GAAGACCAAGGCAATCAACGTGTGCAGGCCCATGCAGCTGCTGCCCTCATTAACTTTACTGAAGACTGTCCCAAG TCACTACTTATTCCATACTTGGATAATTTGGTGAAACATCTGCATTCCATTATGGTACTGAAGCTTCAAGAGCTG ATTCAGAAAGGCACCAAGTTAGTTTTGGAACAAGTTGTGACATCCATTGCATCAGTTGCCGATACTGCAGAAGAA AAATTTGTCCCCTACTATGATTTATTTATGCCATCACTGAAGCACATCGTTGAGAATGCGGTTCAAAAAGAACTG ATCTCTTACATGATCTCAGCATGGGCCAGAATGTGCAAAATCCTTGGAAAAGAATTTCAGCAATACCTTCCAGTG GTTATGGGGCCTTTAATGAAGACGGCTTCAATTAAGCCCGAAGTAGCCCTTTTAGATACCCAAGACATGGAGAAT ATGAGTGATGATGGTTGGGAATTTTGTGAACCTTGGAGATCAGCAAAGCTTTGGTATTAAAACTGCAGGACTA GAACAGGTTGTCAAACTGATGGTCCCTTTACTGAAATTTTATTTCCACGATGGTGTTCGAGTGGCAGCAGCAGAA TCCATGCCTCTTCTCCTGGAGTGTGCAAGAGTCCGTGGTCCTGAGTATCTCACACAGATGTGGCATTTTATGTGT GATGCTCTAATTAAGGCCATTGGTACAGAACCAGATTCAGACGTCCTCTCAGAAATAATGCATTCTTTTGCAAAG TGCATTGAAGTAATGGGAGATGGATGCCTTAATAATGAACACTTTGAAGAACTGGGAGGTATATTGAAAGCAAAG CTTGAAGAACATTTTAAAAATCAAGAATTACGACAAGTTAAAAGACAAGATGAAGACTATGATGAACAGGTCGAA GAGTCACTACAAGATGAGGATGATAATGATGTTTATATTCTGACCAAAGTGTCAGATATTTTACACTCAATATTC AGTAGCTACAAAGAAAAGGTGTTACCATGGTTTGAACAGCTGCTTCCATTAATTGTCAACCTCATTTGTCCACAT AGACCATGGCCAGACAGACAATGGGGATTATGCATCTTTGATGATGTCATAGAACACTGTAGTCCAGCCTCATTT GCATATGGCCTGGGAGTCATGGCACAGTACGGTGGAGATAATTATCGCCCTTTTTGTACAGAAGCACTTCCCCTG CTGGTAAGAGTTATTCAGTCTGCGGATTCTAAGACCAAAGAAAATGTCAATGCTACAGAGAACTGCATCTCAGCA GTAGGGAAAATCATGAAGTTCAAGCCTGACTGTGTAAACGTTGAAGAGGTCCTTCCACACTGGTTGTCTTGGCTT CCACTACATGAAGATAAAGAAGAAGCTGTTCAGACTTTCAATTATCTGTGTGACCTGATTGAAAGTAATCATCCA ATTGTTCTTGGCCCAAACAATACCAATCTGCCCAAAATATTTAGTATAATTGCGGAAGGAGAAATGCACGAGGCA ATTAAACATGAAGATCCTTGTGCCAAACGTCTGGCCAATGTCGTTCGCCAAGTACAGACTTCTGGAGGACTGTGG ACTGAGTGCATAGCACAGCTCAGTCCTGAGCAGCAGCCGCCATTCAGGAGCTCCTGAACTCTGCGTGA

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#### 4263/6881 FIGURE 3931

ATGTTCACCAGCACCGGCTCCAGTGGGCTCTGTGAGTACCGGCCTCCGCCATCCTGGCTGCCCCCTACACGCCAC  $\verb|CCTAGGCACCTCTTTGAGGAGGCTGGGGCAGCGGGGACCCTCGGGTTTGCCGGAGGTGGTGGGGCCGACCCTCCA| \\$ GACCCGCGTCCGAACCCTGCTAGTTCCCGGTCTTGGGGGTCAGCGGAAACCGCCCCCATTTCGGCCTGGAGGGGC GAATGGGGACAAAGCCCCGCCCGCCCCGACCCCACCTGGTATCCCCAGGTGCTCTGCCCAGGAGTCTCTTGG CACTTGCAAAGTTCAGCCTCCGCTTTAGAAGCTGACCTCTCAGTTTCACTTGGATGTGTTTCTTCTTCAGTCTCC AAGAAGAGTTTTTAGACAAACACACACTGATGAGAGTGCTTTCAAGTGGAGGGAAGTTAGGAAGTCGTGGCGAGG GAGCGCAGCTGTGCTGCTGGATGTTGCTGTTTTCCTGGCGTGTTAGCGGTGGTCAGCAGACAAGGCGCCTCTGTC TGTGTATGACCTTCACGCAGTCAAGAACGACTTCCAGCCTGGCACCTGTGTTTGCTCTGTTTTGTACCATTTTACT TGGGACTGCAGCTTTTCACCTCTGGTTCCTACATCTGGATTGTAGCCATAAGTGGACTTATGTCCGGTCTGTGCT ACGACAGCAAAATGTTCCAGGTGCATCAGGTGCTCTGCATCCCCAGCTGGATGGCAAAATTCTTTTCTTGGACAC TTGAACCCATCTTCTCTTCAGAACCCACCAGCGAAGCCAGAATTGGGATGGGAGCCACGCTGGACATCCAGA GACAGCAGAGAATGGAGCTGCTGGACCGGCAGCTGATGTTCTCTCAGTTTGCACAAGGGAGGCGACAGAGACAGC AGCAGGGAGGAATGATCAATTGGAATCGTCTTTTTCCTCCTTTACGTCAGCGACAAAACGTAAACTATCAGGGCG GTCGGCAGTCTGAGCCAGCAGCCCCCTCTAGAAGTTTCTGAGGAACAGGTCGCCCGGCTCATGGAGATGGGAT TTTCCAGAGGTGATGCTTTGGAAGCCCTGAGAGCTTCAAACAATGACCTCAATGTCGCCACCAACTTCCTGCTGC TTATTGGGCATTTTCCCTAGGTTGGAGAGTCAGCACTCGTTTTGAATGTGTTTAAAATGCATTAAAATGGAAGAT TTCTGCAGGCAGTTGAATGGCACTCCAGATGGGGAATTGCTGTAACCCTCTTACTGTAACATGTCATCTCCTGCG TCGTGATGGGGAGAGGGTAATGTTACTTCACAAAGGACATGTCAGATCCTTCTTCATGGACTTTTTTAGTTACTG TTTTTTCTCTCAAACTTGTTTTCGAATCTCCTGGGAGTGAGGGAGAAACAGGGAGCTGAATCCTCCCCAAGCTG TTCCAGGCCAGAGGACTCTGCAGTACCTTCTCCTACATCTAGTAACAAAGAATGGTGATAACCATGCACTGGTTC AAGGTTCTGGAGTTCTCCATGAAACTTGGGTTAATTTTGCTCAGAGTATCCAGAGTTAGCCACTAGGCTGCGGGT CCTCCTGGCTCGCAGCCAGCCAGCCCCTGGCAGCAGGTTCTCCTCAGGGCTTGGGTCTTCAACCTGTGGCGACA GGAGGCAGGGCAGACTGTGGAGGACAGGATGCAGGTCAGGGAGAGGGAAGGCAGGGGTGGACCGCCATGAGCATG AAAAGACCCGAAGCAAGTTGACTCTTGCAATGTGCAACTGTTATGTTCTGCAAAATGAGCAACGATGTATCAAAT TGATGCAAATTTAGATGTTGATACTTACAATAAAGTTTTTAATGTGTTTTACTCTTC

AGGTTACCATGAAGATCATAGCAATGTCGCCTGCTGGCTTCTGGCAAAGCAGAAGAAACCGATACGATCTCCTGG TGACGTCGCTTGGCGTTGTATGGGTGGTGCTTCACTTTGCCCTCCTGAATGCATACTTACATGATGGGCGCTT GTGTGATTGTATTTAGGTTTTTCTCCATCTGTGGAAAACATGTAACGCTAAAGATGCTCCTCTTGACAGTGGTCG TCAGCATGTACAAGAGCTTCTTTATCATAGTAGGCATGTTTCTCTTGCTGCTGTTTACGCTTTTGCTGGAGTTG TTTTATTTGGTACTGTGAAATATGGGGAGAATATTAACAGGCATGCAAATTTTTCTTCGGCTGGAAAAGCTATTA CCGTACTGTTCCGAATTGTCACAGGTGAAGACTGGAACAAGATTATGCATGACTGTATGGTTCAGCCTCCGTTTT GTACTCCAGATGAATTTACATACTGGGCAACAGACTGTGGAAATTATGCTGGGGCACTTATGTATTTCTGTTCAT TTTATGTCATCATTGCCTACATCATGCTAAATCTGCTTGTAGCCATAATTGTGGAGAATTTCTCCTTGTTTTATT CCACTGAGGAGGACCAGCTTTTAAGTTACAATGATCTTCGCCACTTTCAAATAATATGGAACATGGTGGATGATA TGGACAAGGACAAGCTCCTGTTTAAGCACATGTGCTACGAAATGGAGAGGCTCCACAATGGCGGCGACGTCACCT TCCATGATGTCCTGAGCATGCTTTCATACCGGTCCGTGGACATCCGGAAGAGCTTGCAGCTGGAGGAACTCCTGG CGAGGGAGCAGCTGGAGTACACCATAGAGGAGGAGGTGGCCAAGCAGACCATCCGCATGTGGCTCAAGAAGTGCC TGAGCCGGTTTCTGAACCCGCCCAGCATCGAGACCACCCAGCCCAGTGAGGACACGAATGCCAACAGTCAGGACA ACAGCATGCAACCTGAGACAAGCAGCCAGCAGCAGCTCCTGAGCCCCACGCTGTCGGATCGAGGAGGAAGTCGGC AAGATGCAGCCGACGCAGGGAAACCCCAGAGGAAATTTGGGCAGTGGCGTCTGCCCTCAGCCCCAAAACCAATAA CCATGACTGACGCGCTTCCTGCGGTTCTGAAGTTAAGAAGTGGTCGACCCGGCAGCTGACTGTGGAGAGCGACG  ${\tt AAAGTGGGGATGACCTTCTGGATATT\underline{TAG}{\tt GTGGATGTCAATGTAGATGAATTTCTAGTGGTGGAAACCGTTTTCT}$ AATAATGTCCTTGATTGTCCAGTGAGCAATCTGTAATTGATCTATAACTGAATTCCAGCTTGTCACAAGATGTTT CATATATTCTGTCTGCGTAAACTAAGGTATATATTCATATGTGCTCTAATGCAGTATTATCACCGCCCCGCAAAA GAGTGCTAAGCCCAAAGTGGCTGATATTTAGGGTACAGGGGTTATAGCTTTAGTTCACATCTTTCCCATTTCCAC GATAGTAGTTTTACAAACTACAGATTCTGAATTTTAAAAAGTATCTTCTTTTTTCTCGTGTTATATTTTTAAATAT ACACAAGACATTTGGTGACCAGAACAAGTTGATTTCTGTCCTCAGTTATGTTAATGAAACTGTTGCCTCCTTCTA AAATCACTTGAGTGACATAGTTGCGCAAAGATGTTAAGTTTCTTAAGAAACCTTTTAATAACTGAGTTTAGCAAA AAGAATAAAACTATATAGCTCAATTTATTTAAAAAAAATCTTTGCATGTGTGATGTTATCATTGGCTTCATTTCTT ACCCAAGGTATGTCTGTTTTGCCATAAATCAGCAGAGTCATTTCATTCTGGGTGATCCTAACACACCATTGCTAC GTTAGATTTGAAATGACATCTCTGTTAAAAGAATCTTCTATGGAAATAATGGTGCCCTGCAAAATCTTCCTTTGA TAGAAGTGGACTTGACTTTAACTATTTTATTACAGATTTGGACATTTCAGATGTTTTTTAACA GAGGGATTATCTCAGAATCCTGTGACCTCCAGGTTGTTTTATAATCTATTTTTCTCTATTTAACATTCCTCAGAT AGATAGGCAAATAGGACATTCCTTCTGTGTCACAGAAGTATCGTGGTAGTGGCAGTCTACAGTTTATATGATTCA TTGTAACTATGAGATAAAGAACAACCAGTCATGTGGCCAAAAGGATTAGATTTGATTTGATGTTCACTTGGAGTT TACTTTTTGTACATACAAGATAAAATAAATATTGGATTTGT

MKIIAMSPAGFWQSRRNRYDLLVTSLGVVWVVLHFALLNAYTYMMGACVIVFRFFSICGKHVTLKMLLLTVVVSM
YKSFFIIVGMFLLLCYAFAGVVLFGTVKYGENINRHANFSSAGKAITVLFRIVTGEDWNKIMHDCMVQPPFCTP
DEFTYWATDCGNYAGALMYFCSFYVIIAYIMLNLLVAIIVENFSLFYSTEEDQLLSYNDLRHFQIIWNMVDDKRE
GVIPTFRVKFLLRLRGRLEVDLDKDKLLFKHMCYEMERLHNGGDVTFHDVLSMLSYRSVDIRKSLQLEELLARE
QLEYTIEEEVAKQTIRMWLKKCLKRIRAKQQQSCSIIHSLRESQQQELSRFLNPPSIETTQPSEDTNANSQDNSM
QPETSSQQQLLSPTLSDRGGSRQDAADAGKPQRKFGQWRLPSAPKPISHSVSSVNLRFGGRTTMKSVVCKMNPMT
DAASCGSEVKKWWTRQLTVESDESGDDLLDI

CTTGGCTGGAACCTGAGACGGATTCGCTCCCAAATGATGCTCCAGTGGCTGGAGCAACTCAAGTTCATCATTGTC CTGAGAGAGAGGAGCAGCGCGGTTCTCGGCCGGGACAGCAGAACGCCAGGGGACCCTCACCTGGGCGCGCGGGG CACGGGCTTTGATTGTCCTGGGGTCGCGGAGACCCGCGCGCCTGCCCTGCACGCCGGGCGGCAACCTTTGCAGTC GCGTTGGCTGCTGCCGATCGGCCGGCGGGTCCCTGCCGAAGGCTCGGCTGCTTCTGTCCACCTCTTACACTTCTTC GACAGTTCCAGCACTCGCCGAGACCGGCGGAGAAAGGCAGCTGAGCCCGGAGAAGAGAGCGAAATATGGGGACCCGG GCTAAAAGCAGACGTCGTCCTTCCCGCCCGCTATTTCTATATTCAGGCAGTGGATACATCAGGGAATAAATTCAC ATCTTCTCCAGGCGAAAAGGTCTTCCAGGTGAAAGTCTCAGCACCAGAGGAGCAATTCACTAGAGTTGGAGTCCA GGTTTTAGACCGAAAAGATGGGTCCTTCATAGTAAGATACAGAATGTATGCAAGCTACAAAAATCTGAAGGTGGA AGTTAAATTCCAAGGGCAACATGTGGCCAAATCCCCATATATTTTAAAAGGGCCGGTTTACCATGAGAACTGTGA CTGTCCTCTGCAAGATAGTGCAGCCTGGCTACGGGAGATGAACTGCCCTGAAACCATTGCTCAGATTCAGAGAGA TCTGGCACATTTCCCTGCTGTGGATCCAGAAAAGATTGCAGTAGAAATCCCAAAAAGATTTGGACAGAGGCAGAG CCTATGTCACTACACCTTAAAGGATAACAAGGTTTATATCAAGACTCATGGTGAACATGTAGGTTTTAGAATTTT CATGGATGCCATACTACTTTCTTTGACTAGAAAGGTGAAGATGCCAGATGTGGAGCTCTTTGTTAATTTGGGAGA GGATATCGTGATGCCTACGTACGATTTGACTGATTCTGTTCTGGAAACCATGGGCCGGGTAAGTCTGGATATGAT GTCCGTGCAAGCTAACACGGGTCCTCCCTGGGAAAGCAAAAATTCCACTGCCGTCTGGAGAGGGCGAGACAGCCG CAAAGAGAGACTCGAGCTGGTTAAACTCAGTAGAAAACACCCAGAACTCATAGACGCTGCTTTCACCAACTTTTT CTTCTTTAAACACGATGAAAACCTGTATGGTCCCATTGTGAAACATATTTCATTTTTTGATTTCTTCAAGCATAA GTATCAAATAAATATCGATGGCACTGTAGCAGCTTATCGCCTGCCATATTTGCTAGTTGGTGACAGTGTTGTGCT GAAGCAGGATTCCATCTACTATGAACATTTTTACAATGAGCTGCAGCCCTGGAAACACTACATTCCAGTTAAGAG CAACCTGAGCGATCTGCTAGAAAAACTTAAATGGGCGAAAGATCACGATGAAGAGGCCAAAAAGATAGCAAAAGC AGGACAAGAATTTGCAAGAAATAATCTCATGGGCGATGACATATTCTGTTATTATTTCAAACTTTTCCAGGAATA TGCCAATTTACAAGTGAGTGAGCCCCAAATCCGAGAGGGCATGAAAAGGGTAGAACCACAGACTGAGGACGACCT CTTCCCTTGTACTTGCCATAGGAAAAAGACCAAAGATGAACTCTGATATGCAAAATAACTTCTATTAGAATAATG GTGATTGTTTGCAGTATGAAGACACATTTCTACTTATGCAGTATTCTCATGACTGTACTTTAAAGTACATTTTTA 

MFGTLLLYCFFLATVPALAETGGERQLSPEKSEIWGPGLKADVVLPARYFYIQAVDTSGNKFTSSPGEKVFQVKV SAPEEQFTRVGVQVLDRKDGSFIVRYRMYASYKNLKVEVKFQGQHVAKSPYILKGPVYHENCDCPLQDSAAWLRE MNCPETIAQIQRDLAHFPAVDPEKIAVEIPKRFGQRQSLCHYTLKDNKVYIKTHGEHVGFRIFMDAILLSLTRKV KMPDVELFVNLGDWPLEKKKSNSNIHPIFSWCGSTDSKDIVMPTYDLTDSVLETMGRVSLDMMSVQANTGPPWES KNSTAVWRGRDSRKERLELVKLSRKHPELIDAAFTNFFFFKHDENLYGPIVKHISFFDFFKHKYQINIDGTVAAY RLPYLLVGDSVVLKQDSIYYEHFYNELQPWKHYIPVKSNLSDLLEKLKWAKDHDEEAKKIAKAGQEFARNNLMGD DIFCYYFKLFQEYANLQVSEPQIREGMKRVEPQTEDDLFPCTCHRKKTKDEL

#### 4269/6881 FIGURE 3937A

GAGTGTGGCTGCAGTGCGCCGGGACACCAGGGCTCCGCGCTCCGCACTCAAGAGGCTCCCGCGTCCCAACCCCTC GCGCCCGCGCGTTCGCGGATCCAGGCCGAGGACCGAAAGGGGCCGCCCGAGCCCCCGGGGCCGCGCCCCAGAGAG CCCAGCAAGGCCGGCCGCCCTGCCGGTGTGCCGCCGGCGGGTGCTTCTGGAAGGGCCAATGCGTTCGGGCAGCAG CCCCTGAAGCCGAGCCCGAGGCTAAGTGGGACTGACCGGGGCCCAGAGTGGACGAACCGCCAGCATGGGGAGAGA CCAGCGCGCGGTGGCCGGCCCTGCCCTACGGCGGTGGCTGCTGCTGGGGACAGTGACCGTGGGGTTCCTCGCCCA GAGCGTCTTGGCGGGTGTGAAGAAGTTTGATGTGCCGTGTGGAGGAAGAGATTGCAGTGGGGGGCTGCCAGTGCTA CCCTGAGAAAGGTGGACGTGGTCAGCCTGGGCCAGTGGGCCCCCAGGGGTACAATGGGCCACCAGGATTACAAGG ATTCCCGGGACTGCAGGGACGTAAAGGAGACAAGGGTGAAAGGGGAGCCCCCGGAGTAACGGGACCCAAGGGCGA CGTGGGAGCAAGAGGCGTTTCTGGATTCCCTGGTGCCGATGGAATTCCTGGACACCCGGGGCAAGGTGGGCCCAG GGGAAGGCCGGGCTACGATGGCTGCAACGGAACCCAGGGAGACTCAGGTCCACAGGGGCCCCCCGGCTCTGAGGG GTTCACCGGGCCTCCCGGGCCCCAAGGACCAAAAGGGCAGAAAGGTGAGCCTTATGCACTGCCTAAAGAGGAGCG CGACAGATATCGGGGTGAACCTGGAGAGCCTGGATTGGTCGGTTTCCAGGGACCTCCCGGCCGCCCTGGGCATGT GGGACAGATGGGTCCAGTTGGAGCTCCAGGGAGACCAGGACCACCTGGACCCCTGGACCAAAAGGACAGCAAAGG CAACAGAGGACTTGGTTTCTACGGAGTTAAGGGTGAAAAGGGTGACGTAGGGCAGCCGGGACCCAACGGGATTCC ATCAGACACCCTCCACCCCATCATCGCGCCCACAGGAGTCACCTTCCACCCAGATCAGTACAAGGGTGAAAAAAGG CAGTGAGGGGAACCAGGAATAAGAGGCATTTCCTTGAAGGGAGAAGAAGGAATCATGGGCTTTCCTGGACTGAG GGGTTACCCTGGCTTGAGTGGTGAAAAAGGATCACCAGGACAGAAGGGAAGCCGAGGCCTGGATGGCTATCAAGG GCCTGATGGACCCCGGGGACCCAAGGGAGAAGCCGGAGACCCAGGGCCCCCTGGACTACCTGCCTACTCCCCTCA CCCTTCCCTAGCAAAAGGTGCCAGAGGTGACCCGGGATTCCCAGGGGCCCAAGGGGAGCCAGGAAGCCAGGGTGA GCCAGGAGACCCGGGCCTCCCAGGTCCCCTGGCCTCTCCATCGGAGATGGAGATCAGAGGAGAGGCCTGCCGGG TGAGATGGGACCCAAGGGCTTCATCGGAGACCCCGGCATCCCTGCGCTCTACGGGGGCCCACCTGGACCTGATGG AAAGCGAGGGCCTCCAGGACCCCCGGGCTCCCTGGACCACCTGGACCTGATGGCTTCCTGTTTGGGCTGAAAGG AGCAAAAGGAAGAGCAGGCTTCCCTGGGCTTCCCGGCTCCCCTGGAGCCCGCGGACCAAAGGGGTGGAAAGGTGA CGCTGGGGAATGCAGATGTACAGAAGGCGACGAAGCTATCAAAGGTCTTCCGGGACTGCCAGGACCCAAGGGCTT AGGGCTCAAGGGAGTGCCTGGCAACATTGGTGCTCCCGGACCCAAAGGAGCAAAAGGAGATTCCAGAACAATCAC AACCAAAGGTGAGCGGGGACAGCCCGGCGTCCCAGGTGTGCCCGGGATGAAAGGTGACGATGGCAGCCCAGGCCG CGATGGGCTCGATGGATTCCCCGGCCTCCCAGGCCCTCCCGGTGATGGCATCAAGGGCCCTCCAGGGGACCCAGG CTATCCAGGAATACCTGGAACGAAGGGTACTCCAGGAGAAATGGGCCCCCCAGGACTGGGCCTTCCCGGCCTCAA AGGCCAACGTGGTTTCCCTGGAGACGCCGGCTTACCTGGACCACCAGGCTTCCTGGGCCCTCCTGGCCCCGCAGG AGGTTGCATAGGAGGGCCCAAGGGATTGCCAGGCCTGCCAGGACCCCCAGGCCCCACAGGTGCCAAAGGCCTCCG AGGAATCCCAGGCTTCGCAGGAGCTGATGGAGGACCAGGGCCCAGGGGCTTGCCAGGAGACGCAGGTCGTGAAGG GTTCCCAGGACCCCCAGGGTTCATAGGACCCCGAGGATCCAAAGGTGCAGTGGGCCTCCCTGGCCCAGATGGATC CCCAGGTCCCATCGGCCTGCCAGGGCCAGATGGGCCCCCTGGGGAAAGGGGCCTCCCTGGAGAAGTCCTGGGAGC TCAGCCCGGGCCACGGGGAGATGCTGGTGTGCCTGGACAGCCTGGGCTTAAAGGCCTTCCCGGAGACAGAGGCCC CGGCCAGCCAGGCCTGTATGGGCCTCCAGGACTGCATGGATTCCCAGGAGCTCCTGGCCAAGAGGGGCCCTTGGG GCTGCCAGGAATCCCAGGCCGTGAAGGTCTGCCTGGTGATAGAGGGGACCCTGGGGACACAGGCGCTCCTGGCCC TGTGGGCATGAAAGGTCTCTCTGGTGACAGAGGAGATGCTGGCTTCACAGGGGAGCAAGGCCATCCAGGAAGCCC TTTCCAAGGCATGCCTGGACTCAAAGGGAGACCCGGGTTTCCAGGGAGCAAAGGCGAGGCTGGATTTTTCGGAAT ACCCGGTCTGAAGGGTCTGGCTGGTGAGCCAGGTTTTAAAGGCAGCCGAGGGGACCCTGGGCCCCCAGGACCACC TCCTGTCATCCTGCCAGGAATGAAAGACATTAAAGGAGAGAAAGGAGATGAAGGGCCTATGGGGCTGAAAGGATA CCTGGGCGCAAAAGGTATCCAAGGAATGCCAGGCATCCCAGGGCTGTCAGGAATCCCTGGGCTGCCTGGGAGGCC CGGCCACATCAAAGGAGTCAAGGGAGACATCGGAGTCCCCGGCATCCCCGGTTTGCCAGGATTCCCTGGGGTGGC TGGCCCCCTGGAATTACGGGATTCCCAGGATTCATAGGAAGCCGGGGTGACAAAGGTGCCCCAGGGAGAGCAGG CCTGTATGGCGAGATTGGCGCGACTGGTGATTTCGGTGACATCGGGGACACTATAAATTTACCAGGAAGACCAGG

#### 4270/6881 FIGURE 3937B

 $\verb|CCTGAAGGGGGGGGGGGCACCACTGGAATACCAGGTCTGAAGGGATTCTTTGGAGAGAAGGGAACAGAAGGTGA|\\$ CATCGGCTTCCCTGGGATAACAGGCGTGACTGGAGTCCAAGGCCCTCCTGGACTTAAAGGACAAACAGGCTTTCC CTGGCCGGGAGCTCCGGGCTTACCAGGTTTTCCGGGACTCCGTGGGATCCGCGGCTTACACGGCTTGCCAGGCAC CAAGGGCTTTCCAGGATCCCCAGGTTCTGACATCCACGGAGACCCAGGCTTCCCAGGCCCTCCTGGGGAAAGAGG TGACCCAGGAGAGGCCAACACCCTTCCAGGCCCTGTGGGAGTCCCAGGACAGAAAGGAGACCAAGGAGCTCCAGG GGAACGAGGCCCACCTGGGAGCCCAGGACTTCAGGGGTTCCCTGGTATCACACCCCCTTCCAACATCTCTGGGGC ACCTGGTGACAAAGGGGCCCAGGGATATTTGGCCTGAAAGGTTATCGGGGCCCACCAGGGCCACCAGGTTCTGC TGCTCTTCCTGGAAGCAAAGGTGACACAGGGAACCCAGGAGCTCCAGGAACCCCAGGGACCAAAGGATGGGCCGG GGACTCCGGGCCCCAGGGCAGGCCTGGTGTTTTGGTCTCCCAGGAGAAAAAGGGCCCAGGGGTGAACAAGGCTT CATGGGGAACACTGGACCCACTGGGGGGGGGGGGGCGACAGAGGGCCCCAAGGGACCCAAGGGACCCAGGATTCCC TGGTGCCCCGGGACTGTGGGAGCCCCCGGGATTGCAGGAATCCCCCAGAAGATTGCCGTCCAACCAGGGACAGT GGGTCCCCAGGGGAGGCCGCCCCTGGGGCACCGGGGGAGATGGGGCCCCCAGGGCCCCCCGGAGAACCAGG TTTCCGTGGGGCTCCAGGGAAAGCTGGGCCCCAAGGAAGAGGTGGTGTGTCTGCTGTTCCCGGGTAGA TGAAGGACCCATAGGCCACCAGGGGCCGATTGGCCAAGAAGGTGCACCAGGCCGTCCAGGGAGCCCGGGCCTGCC GGGTATGCCAGGCCGCAGCGTCAGCATCGGCTACCTCCTGGTGAAGCACAGCCAGACGGACCAGGAGCCCATGTG CCCAGTGGGCATGAACAACTCTGGAGTGGATACAGCCTGCTGTACTTCGAGGGCCAGGAGAAGGCGCACAACCA GGACCTGGGGGCTGCCGGCTGCCTGCCGGGGTTCAGCACCATGCCCTTCCTGTACTGCAACCCTGGTGATGT CTGCTACTATGCCAGCCGGAACGACAAGTCCTACTGGCTCTCTACCACTGCGCCGCTGCCCATGATGCCCGTGGC GGCGGCGGGAGACGAAGGCGGTGGCCAATCACTGGTGTCACCGGGCAGCTGTCTAGAGGACTTCCGCGCCACACC ATTCATCGAATGCAATGGAGGCCGCGGCACCTGCCACTACTACGCCAACAAGTACAGCTTCTGGCTGACCACCAT CTGCCAGGTGTGCATGAAGAACCTGTGAGCCGGCGCGTGCCAGGAAGGGCCATTTTGGTGCTTATTCTTAACTTA TCCAGCAGCACCTTAGACCTGCCAGCCACTGTCACCGAGCGGTGCAAGCACTCGGGGTCCCTGGAGGGCAAG CCCTGCCCACAGAAAGCCAGGAGCAGCCCTGGCCCCCATCAGCCCTGCTAGACGCACCGCCTGAAGGCACAGCTA ACCACTTCGCACACCCCATGTAACCACTGCACTTTCCAATGCCACAGACAACTCACATTGTTCAACTCCCTTCT CGGGGTGGGACAGACAACAGCACACAGGCAGCCAGCCGTGGCCAGAGGCTCGAGGGGCTCAGGGCCTCAG GCACCCGTCCCCACACGAGGGCCCCGTGGGTGGGCCTGGCCTGCTTTCTACGCCAATGTTATGCCAGCTCCATG TTCTCCCAAATACCGTTGATGTGAATTATTTTAAAGGCAAAACCGTGCTCTTTATTTTAAAAAAACACTGATAATC ACACTGCGGTAGGTCATTCTTTTGCCACATCCCTATAGACCACTGGGTTTGGCAAAACTCAGGCAGAAGTGGAGA CCTTTCTAGACATCATTGTCAGCCTTGCTACTTGAAGGTACACCCCATAGGGTCGGAGGTGCTGTCCCCACTGCC CCACGTTGTCCCTGAGATTTAACCCCTCCACTGCTGGGGGTGAGCTGTACTCTTCTGACTGCCCCCTCCTGTGTA ACGACTACAAAATAAAACTTGGTTCTGAATATTTTT

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 ${\tt AGTCGTAGGCGCTGGCCGCTGAC} \underline{{\tt ATG}} {\tt TTGAGGACTACGCGCGGCCCAGGCCTGGGCCCCGCTGCTCCAGGCCG}$  ${\tt CATATGTTAGATTTGATATCATTCGAAGGATCCTAACCAAGGTTTTTGGATGCAGCATAGTCATGGTGATGGGTA}$ TTACAGATGTAGATGATAAAATCATCAAAAGAGCCAATGAGATGAATATTTCCCCCGCTTCCCTCGCCAGTCTTT ATATTCCTCAGATAATTTCTTTCATTGAAGGAATCATTGCTCGTGGGAACGCTTATTCAACGGCAAAAGGCAATG CAGCGGACTCTGACAAGCGTCATGCCAGTGACTTCGCCCTGTGGAAGGCGGCCAAACCCCAGGAGGTGTTCTGGG  $\verb|CCTCTCCCTGGGGACCCGGGAGGCCGGGCTGGCACATCGAGTGCTCTGCCATCGCTAGTATGGTATTTGGAAGTC|\\$ AACTGGATATCCATTCAGGTGGGATAGATTTAGCTTTTTCCACATCATGAGAACGAAATTGCACAGTGCGAAGTCT TGTCCAAATCATTAAAGAACTACATTACTATTAAGGACTTTCTGAAGACCTTTTCCCCCGATGTCTTCCGGTTCT TCTGCCTGCGGAGCAGCTACCGCTCAGCCATCGACTACAGTGACAGCGCCATGCTCCAAGCTCAGCAGCTGCTCC TGGGGCTGGGCTCTTTCCTGGAGGACGCACGTGCCTACATGAAGGGGCAGCTGGCCTGCGGCTCCGTCAGGGAAG  $\tt CGATGCTGTGGGAGAGGCTCTCCAGCACCAAGAGGGCCGTGAAGGCGGCCTTGGCAGATGATTTTGACACACCCA$ GGGTGGTTGATGCCATCCTGGGCCTTGCACACCACGGGAATGGACAGCTCAGGGCGTCCCTGAAGGAACCTGAAG GGCCGAGAAGTCCTGCTGTTTTGGTGCCATCATCTCTTACTTTGAACAGTTTTTTGAAACTGTTGGAATTTCTC TGGCAAATCAACAGTACGTTTCAGGAGACGGCAGCGAGGCTACCTTGCATGGTGTGGTGGACGAGCTGGTGCGGT  ${\tt TCCGGCAGAAGGTCCGGCAGTTTGCGCTGGCCATGCCCGAGGCCACGGGGGACGCCCGGCGGCAGCAGCTCCTAG}$ AAAGGCAGCCCTGCTGGAAGCATGCGACACCCTGCGCCGGGGCCTGACTGCCCCACGGCATCAACATCAAGGACA  ${\tt GAAGCAGTACAACATCCACGTGGGAACTGCTGGATCAAAGGACAAAAAGACCAAAAATCAGCGGGC\underline{{\tt TGA}}{\tt GGATGGA}$ GCACAGCCATGAACCTGCTCACGACAAGACGCACCCATGCTTCTCAGGGTCAAGGCTTTATGTTAAAGCTTCCTG TCGGGGCTGCTAGGTCAGCATTAAAGTAAGGCAACCAACAGTG

MLRTTRGPGLGPPLLQAALGLGRAGWHWPAGRAASGGRGRAWLQPTGRETGVQVYNSLTGRKEPLIVAHAEAASW YSCGPTVYDHAHLGHACSYVRFDIIRRILTKVFGCSIVMVMGITDVDDKIIKRANEMNISPASLASLYEEDFKQD MAALKVLPPTVYLRVTENIPQIISFIEGIIARGNAYSTAKGNVYFDLKSRGDKYGKLVGVVPGPVGEPADSDKRH ASDFALWKAAKPQEVFWASPWGPGRPGWHIECSAIASMVFGSQLDIHSGGIDLAFPHHENEIAQCEVFHQCEQWG NYFLHSGHLHAKGKEEKMSKSLKNYITIKDFLKTFSPDVFRFFCLRSSYRSAIDYSDSAMLQAQQLLLGLGSFLE DARAYMKGQLACGSVREAMLWERLSSTKRAVKAALADDFDTPRVVDAILGLAHHGNGQLRASLKEPEGPRSPAVF GAIISYFEQFFETVGISLANQQYVSGDGSEATLHGVVDELVRFRQKVRQFALAMPEATGDARRQQLLERQPLLEA CDTLRRGLTAHGINIKDRSSTTSTWELLDQRTKDQKSAG

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#### 4273/6881 FIGURE 3940

GGCCGTTGCCGCGGGGGCCCGAGCGGGGGGGAGGAAGCTGTCGGCCCTAGAAGTGCAGTTCCACCGCGACTCGCA GCGCCCGCTGCCAGCACACGACTACTTCGAGTTCTTCGCCGCCGACCTGAGTCTTTATCCTCATCTCTACTCAAG AGCATACATTAATTTTAGGAATCCTGATGACATCCTTCTTTTTAGAGATCGTTTTGATGGATATATCTTCCTTGA CAGCAAAGGCCTAGAATATCCTGCAGTGGTAGAGTTTGCTCCATTCCAGAAGATAGCCAAAAAAGAAGCTGAGAAA AAAAGATGCCAAGACTGGAAGCATCGAAGATGATCCAGAATATAAGAAGTTTTTAGAAACCTACTGTGTGGAGGA AGAGAAGACCAGTGCCAACCCTGAGACTCTGCTGGGGGGAGATGGAGGCGAAGACAAGAGAGCTCATTGCTAGAAG AACCACACCTCTTTTGGAATATATTAAAAATAGAAAATTAGAAAAGCAGAGAATTCGAGAAGAGAAGCGAGAAGA ATCCTGTGCCCCCGGTGCAGTCGTAAAAGCCAGGCCCATGGAAGGCTCGCTGGAGGAGCCCCAGGAGACGTCACA CAGCGGCAGTGATAAAGAGCACAGGGATGTGGAGAGATCTCAAGAACAAGAATCTGAAGCACAAAGATACCATGT GGATGACGGCAGGAGGCACAGAGCTCACCACGAGCCTGAACGGCTTTCCAGAAGGAGTGAGGATGAGCAGAGATG GGGGAAAGGACCTGGCCAAGACAGAGGGGAAGAAGGGGAGCCAGGACAGCGGGGCTCCGGGGGAGGCCATGGAGAG ACTGGGAAGAGCGCAGAGGTGTGACGACAGTCCAGCACCCAGAAAAGAGCGACTGGCAAACAAGGACCGGCCAGC CTTGCAGCTGTATGATCCAGGAGCTCGCTTCCGAGCGCGAGAGTGTGGCGGAAACAGGAGGATCTGCAAGGCAGA  ${\tt AGGTTCGGGGACTGGTCCTGAGAAGAGGGAAGAGGCAGAG} {\tt TGA} {\tt GTCACTGCACGCACCTGGCCTCCATGGACGAG}$ CAAGGGCATCCCAGAAACGTGTAAATGACCCCGAGTGTGACTGGGAAGGAGAACTTATTCCTTACCAGGAAACTG TGAGCAGAATTCTCACAGATTTTACCATTCCTGTTATAAACTAGTATTTGTTGTTTAGCCAAAACAGAAAATGAT TTCCACTGGACAGTAGAAAAATATGTGTAAAATAGGGAAGAAAGTTAGTATTGGATCAGTGTGAGTCCTGAAGCA TGCCCGCAAAGCGTGCTGTTTTAGTCCTGGTAGGAATATTTATCAGAGTTCACACTATATAAAACCCAACAGC TGGTTTGTAACCATTACGGTTTAAACCATGGTTTAAGAATTTGCCCAAATAACAGAAATTTTGTTCGGGAAGGGA TAAACTAGATATAGCATACAGAGCCTGTTTTTGAGTTTTAGATACTTTATTTGTAAATAACTTAAAATAGCTTTC TGAAACCGTGCATTCTGTAGTTTCTTCCTTTCAGTGAAATTGCTAAATGTCAATGTATTTTTTGGCACTGCGATTT 

MRSEKEGAGGLRAAVAARGPSGREKLSALEVQFHRDSQQQEAETPPTSSSGCGGGAGKPREEKRTALSKVVIRRL PPGLTKEQLEEQLRPLPAHDYFEFFAADLSLYPHLYSRAYINFRNPDDILLFRDRFDGYIFLDSKGLEYPAVVEF APFQKIAKKKLRKKDAKTGSIEDDPEYKKFLETYCVEEEKTSANPETLLGEMEAKTRELIARRTTPLLEYIKNRK LEKQRIREEKREERRRELEKKRLREEEKRRREEERCKKKETDKQKKIAEKEVRIKLLKKPEKGEEPTTEKPKE RGEEIDTGGGKQESCAPGAVVKARPMEGSLEEPQETSHSGSDKEHRDVERSQEQESEAQRYHVDDGRRHRAHHEP ERLSRRSEDEQRWGKGPGQDRGKKGSQDSGAPGEAMERLGRAQRCDDSPAPRKERLANKDRPALQLYDPGARFRA RECGGNRRICKAEGSGTGPEKREEAE

GGCCGTTGCCGCGCGCGCGCGGGCGGGGGGGGGAGAGCTGTCGGCCCTAGAAGTGCAGTTCCACCGCGACTCGCA GAGGACGCCCTGAGCAAGGTGGTCATCCGCCGCCTGCCTCCGGGCCTCACCAAGGAGCAGCTGGAGGAGCAGCT GCGCCCGCTGCCAGCACACGACTACTTCGAGTTCTTCGCCGCCGACCTGAGTCTTTATCCTCATCTCTACTCAAG AGCATACATTAATTTTAGGAATCCTGATGACATCCTTCTTTTTAGAGATCGTTTTGATGGATATATCTTCCTTGA CAGCAAAGATCCAGAATATAAGAAGTTTTTAGAAACCTACTGTGTGGGGGAAGAGAGACCAGTGCCAACCCTGA GACTCTGCTGGGGGGAGATGGAGGCGAAGACAAGAGAGCTCATTGCTAGAAGAACCACCTCTTTTGGAATATAT TAAAAATAGAAAATTAGAAAAGCAGAGAATTCGAGAAGAGAGCGAGGAAGAAGAACGGAGGAGGAGAGTTAGAAAA GAAACCAAAAGAAAGAGAGAGAGATTGATACTGGAGGTGGCAAGCAGGAATCCTGTGCCCCCGGTGCAGTCGT AAAAGCCAGGCCCATGGAAGGCTCGCTGGAGGAGCCCCAGGAGACGTCACACAGCGGCAGTGATAAAGAGCACAG GGATGTGGAGAGATCTCAAGAACAAGAATCTGAAGCACAAAGATACCATGTGGATGACGGCAGGAGGCACAGAGC TCACCACGAGCCTGAACGGCTTTCCAGAAGGAGTGAGGATGAGCAGAGATGGGGGGAAAGGACCTGGCCAAGACAG AGGGAAGAGGGGGCCAGGACAGCGGGGCTCCGGGGGAGGCCATGGAGAGACTGGGAAGAGCGCAGAGGTGTGA CGACAGTCCAGCACCCAGAAAAGAGCGACTGGCAAACAAGGACCGGCCAGCCTTGCAGCTGTATGATCCAGGAGC TCGCTTCCGAGCGCGAGAGTGTGGCGGAAACAGGAGGATCTGCAAGGCAGAAGGTTCGGGGACTGGTCCTGAGAA GAGGGAAGAGGCAGAGTGAGTCACTGCACGCACCTGGCCTCCATGGACGAGCAAGGGCATCCCAGAAACGTGTAA ATGACCCCGAGTGTGACTGGGAAGGAGAACTTATTCCTTACCAGGAAACTGGAAGCTAAAAATACAGAGGGTGAC GTAGAAACACGCAGAAACCATTCTAAAGAAAGTAGTGATCTTGTATTAAATTGAGCAGAATTCTCACAGATTTTA CCATTCCTGTTATAAACTAGTATTTGTTGTTTAGCCAAAACAGAAAATGATTTCCACTGGACAGTAGAAAAATAT GTGTAAAATAGGGAAGAAAGTTAGTATTGGATCAGTGTGAGCTCTGAAGCACTTTCAGTGCTGTGAGAACGACAT GTGTCGAGTGAAGAGTAGTTCTTGTTTGTTACAACCTTTGTGAGTCAGCCATGCCCGCAAAGCGTGCTGTTTTT AGTCCTGGTAGGAATATTTATCAGAGTTCACACTATATAAAACCCAACAGCTTCAACTATTGCCCTTTCAACAGT ACCATGGTTTAAGAATTTGCCCAAATAACAGAAATTTTGTTCGGGAAGGGATAAACTAGATATAGCATACAGAGC CTGTTTTTGAGTTTTAGATACTTTATTTGTAAATAACTTAAAATAGCTTTCTGAAACCGTGCATTCTGTAGTTTC TGTTAAAGAAAAAAAAAAAAAAAAAAAAAA

MRSEKEGAGGLRAAVAARGPSGREKLSALEVQFHRDSQQQEAETPPTSSSGCGGGAGKPREEKRTALSKVVIRRL PPGLTKEQLEEQLRPLPAHDYFEFFAADLSLYPHLYSRAYINFRNPDDILLFRDRFDGYIFLDSKDPEYKKFLET YCVEEEKTSANPETLLGEMEAKTRELIARRTTPLLEYIKNRKLEKQRIREEKREERRRELEKKRLREEEKRRRR EEERCKKKETDKQKKIAEKEVRIKLLKKPEKGEEPTTEKPKERGEEIDTGGGKQESCAPGAVVKARPMEGSLEEP QETSHSGSDKEHRDVERSQEQESEAQRYHVDDGRRHRAHHEPERLSRRSEDEQRWGKGPGQDRGKKGSQDSGAPG EAMERLGRAQRCDDSPAPRKERLANKDRPALQLYDPGARFRARECGGNRRICKAEGSGTGPEKREEAE

CGGAAGTGCGGATCCCAGCGGCGGTCGTGTAGCTGAGCAGGCCTGGGGCTTGGTTCTATGTCCCTGTGGCTATGT TTCCAGTGTCCTCTGGGTGTTTCCAAGAGCAACAAGAAACGAATAAATCTCTGCCCCGCAGCGCCTCCACCCCAG AGACCCGGACCAAGTTCACACAGGACAATCTGTGCCACGCCCAGCGCGAGCGCCTGGACTCGGCCAACCTGTGGG TGCTGGTGGACTGCATCCTTCGCGACACCTCCGAGGACCTGGGACTCCAGTGTGACGCCGTGAACCTGGCCTTCG GGCGCCGCTGTGAGGAACTGGAGGACGCGCGCACAAGCTGCAGCACCACCTGCACAAGATGCTGCGGGAAATCA CAGATCAGGAACACCTTGGTGGCACTGAAGGAGGCCATCAAGGACAAGGAGGAACCTCTGCACATAGCCCAGA  $\verb|CCCGGCTGTAGCTGCTCACACCGGCCCAACATGCAGCTGTGCCGCGATGCAGCCCAGTTCAGGTACTGCCTGG|\\$ GCCTCTGAGGCAGTCCCAGGTGCCCCCATCCACCTCCTCGCTGCGACCCTCTCCAATAAACACTCCAATCTCCAC ACACAGATATAGACATGACACTGGGCAGGTCATGGGTCGGGGGCCTCCCCGTGCCAGGGACCTGTGCCCACGTGG TCTCACCCCACCCTGTGCTACCTCATCTTCCCGGGAGGAAGCTCCTTCAGACAAGGTGAGCTCCTGGAGGCCACG AGCCTAAGTACCTTTCTTCCTTCCCTGCCCCTCAGTTCCTTCAAGGAACTGGGTGCCTCCTTCCGTCAAATATCA GGAATGGAAAGAACTGAGCCTGGTCGGCTGAGGCCAGTCCTGTCCTGTCAGGGTCGAGATTGCACGCGGGTCACT CATTCCCACTCAGGCCCGCGCTCCCTGGGAGGACCCTCGTAATTTATGCTCTGCCCTAGAGCCGCTTTCCTGGTA GGATCCTTTCATGGCGTCTTCCCAGGACCTCCTGCCAGCTCCCATTGGGAGTTTTGGGTCCCCTCCACCCAGTA CTGTACAAGTCCATCACAGCGCTGCGGGAGAAGCTTCTACAAGCGGAGCAGTCCCTGCGCAACCTCAAGGACATC CACATGAGCCTGGAGAAGGACGTCACTGCCATGACCAACAGTCTCTTCATCGACCGCCAGAAGTGCATGGCCCAT CGTACTTGCTACCCCACCATTCTGCAGCTGGCTGGCTACCAGTGAGCAGCGGCACGGTGCTTCCCCCCAATCCCC CAAATAAACAGTGCGTTAGCTTTC

MFPVSSGCFQEQQETNKSLPRSASTPETRTKFTQDNLCHAQRERLDSANLWVLVDCILRDTSEDLGLQCDAVNLA FGRRCEELEDARHKLQHHLHKMLREITDQEHNLVALKEAIKDKEEPLHIAQTRL

#### 4279/6881 FIGURE 3946A

CTGACCACACACTCCTCACTCCCCTGGCCCTGATGGGCGGCAGACACCATGGTGCAGACGGATGTGCTCCTAC CAGAGCCAGCACCGCAGACAGTGTCACCCTGCGAGCTGCCCTGCAAAGAGTATGACGTGGCCCGCAACATGGGCC TCTACACGTCCTCCAGCCTGGCCACCCCCAGCTGGAGGTGTGGTTCCAGAACTGCTATGCTCGCTACCACCAGGC ACAGAGAGGAGGAGCCCCCGGCAGTTCATGTGGACAAGCCACGTGGCTGCTGCAAGCACACGGGAGACCAGCCCT  $\tt CTGTGCGTGAGACACCTGAGTCCTGAAATCTGGCCCCTTAGTGACAGGAGGCAGTTTTGCCCCAGAAGGCCCCTG$ ACTTCCAAGCAGCTGTTTCTCCTCCTCCAATACCTTTGAGTCCTGGCACAGTCATCCTGACCCTGGGCTCCCC AGAGACCCTCCCTGATTGGGACAGTTGCTCCCGAGGTGGAAACCCAGGTCTGGGCCAGCACTGCGGGTGTGGACA GGTAGGGTGGGATAGGCTGGGAGCCACTGCTCCCATTCATCCTATACAGAGCCGGGGACACGAAGATCTGCACCC ACAGGTCCCCTTCTCCTTGTCACCTGTAACTTCCCAATCCAGCCCAGCTTGTCTATGGGGCAACCCCATAGGGTG AGAGAGTAACTCAGTCCTGGCACTGATGCTGGCTCTGGAGAATTCCCTGAGCTCTCAGAGCCTGGGGCCTCCATG AGAACCACTACAGGCCTGTAGACATTTGTGAAAGATGTGGGGTGGAGGCAGCTGGTCTCCTGCCATACCCCCAAA TGAAGTGATGGAGACACTGACAGTGCAGGAAGAGGCAAACCCAGGGACAGAGGGGTGCAGGACTCGGGCCCTGGC ACACAAGGAGGTGTTGACAAAGGCCTTCAGCAGCTGGGCCTCCTGGGATCCTCACCAAGGACCGGATCTGGTGCT CAGGGCGTCTCCTCCCTCAGGAAGCTGAGCCCATCCGGAACATTCAGGAGCTGCTGAAGAGAGCCATCGTGCAAG AAGGCATTGAACGACAGAACCCTGAAGCTCAGAGCCAGGGGCTGTCCCAGGTCACAGTGGGAGCACAGGGCT GGGTGGGGGGGGTTCTGGCCCAGCCTGAGTTTGAGTGGCCAAAGCCCAGGGCCACAACTGATCTGCAGCCTCCCA CCCAGACTGAACCGAGAGCACACGGAGATCTGCGAGATGGACTGGTTGGACAAGGTGGAGGCCTACAACCTCGAC GAGACTTGCGGGCGCCACCACAGCCAGAGCACCGAGGTGCAGGCTCATCCGGCACTCCACCACCTTCCAAGAGAG TGCTTCCCCCAGCCTGGCCCAGAGGCCCTCGCCCCCGAGGGCACTTGGGCAACTGTCTGCCCCTGGCATGAGAAA GCGTGCAAGACCTCCTCAAGTGCCCAGCGCGTGCACAGCCTGGTTGCCCGTAGACAGGACAGGGTGGGATGCGGT CAGCCCCAGGCGCCGGCAGGATTGCATTTCCACCGAAGGCCAGCAGGGGGGGCACCACCGCCCACTTGAGCA TGGCAAACTCCTGGCCCCGCAGCGCCTCCACCCCAGAGACCCGGACCAAGTTCACACAGGACAATCTGTGCCACG TGGGACTCCAGTGTGACGCCGTGAACCTGGCCTTCGGGCGCCCTGTGAGGAACTGGAGGACGCGCGCACAAGC TGCAGCACCACCTGCACAAGGTGGGGCACCCTGAACCCCGAAGACAGCTCCGGCGCCTGCCCACCACTCTGCCCC CTCTCATCACCTGGCCTGGGCCCTCAACACCTTTCTCCTCTGTCCCACTTATCCCGAGGGACCCCAGAAGCAAGT GTCACCTCTCCGTAAACCTATGTAAAACCAGGTGACACTGGGTATGATCGCAGTGTGTTGCAACCCCCATGACTG AGCAGGAGGAGCTGTGGGGAGGATGGAGGCAGGAGCTGGTCTGGGGAGCATTGACTGCCTGGGAGGTCCCCAAGA GTCCTGGCCTGGCAGGCAGGGCTCTGACTCTAGGGCCTCAGCATGGCCTTTACCACCTCTGAGTCCCCAGTCCTT GAGCAGGATTTGGGTCCTGGTGACCACCAAGGATGGGGGTTCTTGGACCAGAGCTAAGAGACAACAGGCTGCCTG ACTOTOCAGAGCCCGCTGGGGGCCCTGTGCACATTGTTCCCCTCATCCACGCCTCCCCAGAGCCACTGGTCAGGA CCACCTCTGGACACAGCCCCAGGAGCTGGGTAGGACCAGACTGGTCTCCACATTCCATATGCCCGGGCATGGGG GCACAGGCCCAAGGGGCACTGTCCTGTCTGCAGATGCTGCGGGAAATCACAGATCAGGAACACAACGTGGTGGCA CTGAAGGAGGCCATCAAGGACAAGGAGGAACCTCTGCACATAGCCCAGACCCGGCTGTACCTGCTCTCACACCGG CCCAACATGCAGCTGTGCCGCGAAGCAGCCCAGTTCAGGTACTGCCTGGGCCTCTGAGGCAGTCCCAGGTGCCCC GGGAGGGAGAGTTTGCGGCCACACACACACACGCCAAGCACGCCTTAAACACACAGATATAGACATGACACTGGGCA

#### 4280/6881 FIGURE 3946B

 ${\tt MFPVSSGCFQEQQETNKSLPRSASTPETRTKFTQDNLCHAQRERLDSANLWVLVDCILRDTSEDLGLQCDAVNLAFGRRCEELEDVRHKLQHHLHKVGHPEPRRRLRRLPTTLPPLITWPGPSTPFSSVPLIPRDPRSKCHLSVNLCKTR$ 

CCCGGCCCGCGTCTCAGCTATAAAGATAGCCCCGGCATGACAGCCGCGGCGAAGCTCTTCTAGTTCATCTGCTGG CCGGCTCTCAGTCCCCGTGGCGCCCCCTTTCCTCTTGTCCCAGAGCGCTCTCGACTCCACCATGCCAAGGGGATT CCTGGTGAAGCGAACTAAACGGACAGGCGGCTTGTACCGAGTTCGCCTTGCGGAGCGTGTCTTCCCTCTGCTGGG GCCCCAGGGGGCGCCCCTTCTTGGAGGAGGCTCCCAGCGCCTCCTTGCCCGGCGCGCGAGCGGGCGACACCCCC CACCCGAGAGGAACCAGGAAAGGGGTTGACGGCGGAGGCGGCCCGGGAACAGTCGGGGTCGCCATGTCGGGCGGC TGGGGTGAGCCCGGGGACGGGGGGGGAAGGCCGCGGAGTGGCGGGGGGAAGGTCCCGGGCCCAG  $\verb|CTCGCCGTCTCCGCCGAGTCTTTCCCCGGGGGCGCCGCCGCGGGGCGCCGTTTCTCCTGCTCCGTGGCGCCAGC| \\$ AGCCGCACCGGGGGGGGGGGGTTTCTGCTGCCGCTTCGGGCGCCGTTCCCAGAGCCCGCGCTTCAGCCGGA GGACTGCGCGTCTGGACCCGCGGCCGCGGGAATCAAGAAGCCAAAGGCCATGAGGAAGTTGAGCTTTGCCGATGA GGTGACCACATCCCCTGTCCTGGGCCTGAAGATCAAGGAGGAGGAGCCCCGGAGCGCCGTCCCGGGGCTTGGGGGG CAGCCGCACGCCACTGGGGGAGTTCATCTGCCAGCTGTGCAAGGAGCAGTACGCAGACCCCTTCGCGCTGGCCCA GCACCGCTGCTCCCGCATCGTGCGCGTAGAGTACCGCTGCCCTGAGTGCGACAAGGTGTTCAGCTGTCCTGCGAA CCTGGCCTCCCATCGCCGCTGGCATAAGCCGCGTCCTGCGGCTGCAAACGCCGCCACAGTCTCCTCCGCCGACGG GAAGCCGCCTTCTTCGTCGTCTTCGTCCTCCCGGGACTCCGGGGCCATTGCATCTTTTCTGGCGGAGGGAAAGGA GAACAGCCGAATAGAGCGGACTGCGGATCAGCACCCGCAGGCCAGGGACAGCTCCGGGGCGGATCAGCACCCGGA CAGCGCCCCGAGGCAGGCCTCCAGGTGCTGACGCATCCAGAGCCACCGCTGCCTCAGGGCCCCTACACGGAGGG GGTGTTGGGGCCCCGGGTACCTGTGCCGGGCAGTACCAGTGGTGGCAGGGGATCCGAGATTTTCGTGTGCCCATA TTGCCACAAAAGTTTCGTCGCCAAGCCTATCTGCGCAAGCACCTGAGCACTCACGAGGCGGGCTCGGCCCGTGC GCTAGCGCCGGGCTTTGGCTCCGAACGCGGTGCCCCACTTGCCTTGCCCATTGTGCGGAGCGCACTTCCC TACAGCAGATATCAGGGAGAAGCACCGGCTGTGGCATGCTGTCCGCGAGGAGCTGCTCCTGCCCGCTCTGGCGGG GGCTCCTCCCGAAACGTCGGGCCCTAGCGGGCCATCTGACGGGAGTGCCCAGCAAATTTTCTCGTGCAAGCACTG CCCGTCCACTTTTTTTAGCTCTCCAGGGCTGACCCGGCACATCAATAAGTGCCACCCCTCAGAAAGCCGGCAAGT GCTGCTGCTGCAGATGCCACTGCGGCCTGCTGAGGGACGAGACCAGGATGATTTCGAGGTTGGCCTTAG ATCCCCTAAAATTCTCCCTGTAGTCAATGTTCCACCAGAGGAGCGGACAGTGAAATGTAATATCCCTCTCTAGAG CAGGTATGTATATGGTATAAACCTTGAGATCAAAGACTGTCAGCTTTAAATCCTTCTCACTTTCCCCACTAAAAT AGGATTTTTCCCCTTAAAACTCTGGAGACCCTAACGAATCCTATATGATTTGTAATTCCTATGGAAAGTCGCGGT TCACAGGCGCCTATACAGCTTCTGTCTCAATAGGGTCAGATATTTTGCACTGTATATTCTGTGAATTAAAAGTTA TGTGATTGGTGTCAAACTTAAGGAGATTCAAGACCTGGCAGAAAATGTAAGAGGATTTTTGCTGCTTTTGGGGTG CATGGGGATCTCCCCTGTAAACTTTCCTTTGCCCAATTATATGTACATGTCCATTCTTAAGTTGGTGTTTTGGAGG TGGGGAGGATGCTACTTTACTGGAGTTGAGACACCCCCTAAAATTCTCACCCTCAGCTATTTTGTGGGCAGTATT CAGGAAGAGCTACTTCAAACCTTTCTTTAAATGGCTTTTTGGAAATACAGAAGTCGTTTCCTCAAGTTTGACTGT TTTAATGGGGTTTCACCCAAATTGTTTAATGCTTCTGCTGTAAATGTCATACTGTGTATTCATTATGAAAATATG TACAGCTTAAGGAAGATGTTAACACCTGTAATCCACTAAGGAACTGAATGGCAATTTGCTCAATATTCAGTATTT TCTTTTCAGCGGCAACTTGTTTTTGATTTTTTTAAAAAACCATTTCAGTGTACATTGTGTACTAATTCCCTACTA **TACATAGACTGTG** 

 $\verb|CCCGCAGCTCGTCCGCGCCATGTTCCAGGCGGCCGAGCGCCCCCAGGAGTGGGCCCATGGAGGGCCCCCGCGACGG|\\$ GCTGAAGAAGGAGCGGCTACTGGACGACCGCCACGACAGCGGCCTGGACTCCATGAAAGACGAGGAGTACGAGCA GCTCACCGAGGACGGGGACTCGTTCCTGCACTTGGCCATCATCCATGAAGAAAAGGCACTGACCATGGAAGTGAT CCGCCAGGTGAAGGGAGACCTGGCCTTCCTCAACTTCCAGAACAACCTGCAGCAGACTCCACTCCACTTGGCTGT AAATACCCCCTACACCTTGCCTGTGAGCAGGGCTGCCTGGCCAGCGTGGGAGTCCTGACTCAGTCCTGCACCAC CCCGCACCTCCACCCGAAGGCTACCAACTACAATGGCCACACGTGTCTACACTTAGCCTCTATCCATGG CTACCTGGGCATCGTGGAGCTTTTGGTGTCCTTGGGTGCTGATGTCAATGCTCAGGAGCCCTGTAATGGCCGGAC TGCCCTTCACCTCGCAGTGGACCTGCAAAATCCTGACCTGGTGTCACTCCTGTTGAAGTGTGGGGCTGATGTCAA CAGAGTTACCTACCAGGCTATTCTCCCTACCAGCTCACCTGGGGCCGCCCAAGCACCCGGATACAGCAGCAGCT GGGCCAGCTGACACTAGAAAACCTTCAGATGCTGCCAGAGAGTGAGGATGAGGAGAGCTATGACACAGAGTCAGA GTTCACGGAGTTCACAGAGGACGAGCTGCCCTATGATGACTGTGTTTTGGAGGCCAGCGTCTGACGTTATGAGC GAAGAAAAATTTAAAGGGTGTACTTATATCCACACTGCACACTGCCTGGCCCAAAACGTCTTATTGTGGTAGGA TCAGCCCTCATTTTGTTGCTTTTTGTGAACTTTTTGTAGGGGACGAGAAAGATCATTGAAATTCTGAGAAAACTTC TTTTAAACCTCACCTTTGTGGGGTTTTTGGAGAAGGTTATCAAAAATTTCATGGAAGGACCACATTTTATATTTA TTGTGCTTCGAGTGACTGACCCCAGTGGTATCCTGTGACATGTAACAGCCAGGAGTGTTAAGCGTTCAGTGATGT GGGGTGAAAAGTTACTACCTGTCAAGGTTTGTGTTACCCTCCTGTAAATGGTGTACATAATGTATTGTTGGTAAT TATTTTGGTACTTTTATGATGTATATTTATTAAACAGATTTTTACAAATG

MSRGSSAGFDRHITIFSPEGRLYQVEYAFKAINQGGLTSVAVRGKDCAVIVTQKKVPDKLLDSSTVTHLFKITEN IGCVMTGMTADSRSQVQRARYEAANWKYKYGYEIPVDMLCKRIADISQVYTQNAEMRPLGCCMILIGIDEEQGPQ VYKCDPAGYYCGFKATAAGVKQTESTSFLEKKVKKKFDWTFEQTVETAITCLSTVLSIDFKPSEIEVGVVTVENP KFRILTEAEIDAHLVALAERD

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## 4288/6881 FIGURE 3954

 ${\tt MPPKFDPNEIKVVYLRCTGGEVGATSALAPKIGPLGLSPKKVGDDIAKATGDWKGLRITVKLTIQNRQAQIEVVPSASALIIKALKEPPRHRKKRKTLNTVGISLLMRSSTLLDRCGTDSLARELSGTIKEILGTAQSVGCNVDGRHPHDIIDHINIGAVECPAS$ 

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GAAGAGGCGAGAACGACCCCCGGACTGACCAAAGCCCGCGCGCAGCTGCATCCCGCATCCAGCACCTACATCCCG
CCACCGTCGTGGCCGTCACCATGCCCAAGAGAAAGGCTGAAGGGGATGCTAAGGGAGATAAAGCCAAGGTGAAGG
ACGAACCGCAGAGAAGATCCGCGAGGTTGTCTGCCAAACCTGCTCCTCCAAAGCCAGAGCCCAAGCCTAGAAAGT
CCCCTGTAAAGAAGGGAGAAAGGTACCCAAAGGGAAAAAGGGAAAAAGCTGATGCCCAGGAGGAGGAGGATTCCCTG
ACTCTGACACACATGGCCACCTTGGCACAAAAGCCTTGTGGTATAGAAAAACAAATTCGTTTTTATGTCCTCTTC
TCCTTTTCCATCTTTCAGCATAGACTTAACTCCCTTGAGCCCGAGACATCTGTTGGGACCTGACCCCCAGTCATTG
ATTACCAGTGTGCAGGCAATCTGGACTTTCCAGTGATGCCACTGAGATGGCACCTGTCAAAAGAGCAGTGGTTC
CATTTCTAGATTGTGGATCTTCAGATAAATTCTGCCATTTTCACTTCCTGAAAGTCAGGGTCGGCTTGTG
AAAAGTTGTTAAACAACATGCTAAATGTGAAATGTCAACCCTCACTCTAAACTTTCCCTGTTCAGAGCATCAGAT
GAAGACTTCATTGGGTTTTATAGTGGCTTTCTGATTTTTGGTAGTCCATTGAAGAAGGGAGTTTGAAAGTTGTTG
TATACTGTTAACAATTGTCTGCCCATGTCCTGCCTGAAATTACCA

 ${\tt MPKRKAEGDAKGDKAKVKDEPQRRSARLSAKPAPPKPEPKPRKSPVKKGEKVPKGKKGKADAEEEGFPDSDTHGH}\\ {\tt LGTKALWYRKTNSFLCPLLLFHLSA}$ 

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#### 4291/6881 FIGURE 3957

CCCTAACCCAGCTGCTGAATGCCAGAGGCCACGAAGTGACGTTGGTCTCCCGAAAGCCCGGGCCCGGCCCGGATCA CGTGGGATGAGCTCGCTGCATCGGGGCTGCCGAGCTGCGATGCCGCCGTCAACCTGGCCGGAGAGAACATCCTCA ACCCTCTCCGAAGATGGAATGAAACCTTCCAAAAAGGGTAATCGGCAGCCGCCTAGAGACCACCCAATTGCTGG CTAAAGCCATCACCAAAGCCCCACAACCCCCCAAGGCCTGGGTCTTAGTCACAGGTGTAGCTTACTACCAGCCCA GTCTGACTGCGGAGTATGATGAAGACAGCCCAGGAGGGGACTTTGACTTTTTCTCCAACCTCGTAACCAAATGGG AAGCTGCAGCCAGGCTTCCTGGAGATTCTACACGCCAGGTGGTGCTGCGCTCAGGGGTTGTGCTGGGCCGTGGGG GTGGTGCCATGGGCCACATGCTGCCCTTTCGCCTGGGCCTGGGGGGCCCCATCGGCTCAGGCCACCAATTCT TCCCCTGGATACACATCGGGGACCTGGCAGGAATCCTGACCCATGCCCTTGAAGCAAACCACGTGCACGGGGTCC TGAATGGAGTGGCTCCATCCTCCGCCACTAATGCTGAGTTTGCCCAGACCTTGGGTGCTGCCCTGGGCCGCCGAG  $\verb|CCTTCATCCCTCTCCCCAGCGCTGTGGTGCAAGCTGTCTTTGGGCGACAGCGTGCCATCATGCTGCTGGAGGGCC|\\$ AAATTGTAGCCTAAGTAGGTCGTGGCAAGGGCCTGAGGCCTGTTCCTCACAGGCTTCCAGGTTAGGCACTGTGAA TAGGCTCAGCTCCTCTAGAGAGCCTGAAGCCATCTGGTTCTTAGATTCCTCTCCCAGTCCTCTTTCCCATTGTTCT GTTGCTCCACCTTATTGTCTCAAGGCCGTAATCTCATCAGGTTGGGACATTAATCTTTTCAACTCCTTGTAAGAT TTCCCAGTTTGGTTTCTCTACATGTCCTGCAGCTGCCCCACTTCTCCTTTACGCTGTAGAGAATGCTCTGCAG TTTAGGCAATAAAAATAAATTGTCTCACT

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CTCGTCGGCAAAGGCGGGTTCGGCACAGTGTTCCGGGCGCAACATAGGAAGTGGGGGCTACGATGTGGCGGTCAAG ATCGTAAACTCGAAGGCGATATCCAGGGAGGTCAAGGCCATGGCAAGTCTGGATAACGAATTCGTGCTGCGCCTA GAAGGGGTTATCGAGAAGGTGAACTGGGACCAAGATCCCAAGCCGGCTCTGGTGACTAAATTCATGGAGAACGGC TCCTTGTCGGGGCTGCTGCAGTCCCAGTGCCCTCGGCCCTGCTCCTTTGCCGCCTGCTGAAAGAAGTGGTG CTTGGGATGTTTTACCTGCACGACCAGAACCCGGTGCTCCTGCACCGGGACCTCAAGCCATCCAACGTCCTGCTG GACCCAGAGCTGCACGTCAAGCTGGCAGATTTTGGCCTGTCCACATTTCAGGGAGGCTCACAGTCAGGGACAGGG CCATCACTCGTGTACGAAGCAGTGTGCAACAGGCAGAACCGGCCTTCATTGGCTGAGCTGCCCCAAGCCGGGCCT GAGACTCCCGGCTTAGAAGGACTGAAGGAGCTAATGCAGCTCTGCTGGAGCAGTGAGCCCAAGGACAGACCCTCC TTCCAGGAATGCCTACCAAAAACTGATGAAGTCTTCCAGATGGTGGAGAACAATATGAATGCTGCTGTCTCCACG GTAAAGGATTTCCTGTCTCAGCTCAGGAGCAGCAATAGGAGATTTTCTATCCCAGAGTCAGGCCAAGGAGGACA GAAATGGATGGCTTTAGGAGAACCATAGAAAACCAGCACTCTCGTAATGATGTCATGGTTTCTGAGTGGCTAAAC AAACTGAATCTAGAGGAGCCTCCCAGCTCTGTTCCTAAAAAATGCCCGAGCCTTACCAAGAGGAGCAGGGCACAA GAGGAGCAGGTTCCACAAGCCTGGACAGCAGGCACATCTTCAGATTCGATGGCCCAACCTCCCCAGACTCCAGAG ACCTCAACTTTCAGAAACCAGATGCCCAGCCCTACCTCAACTGGAACACCAAGTCCTGGACCCCGAGGGAATCAG GGGGCTGAGAGACAAGGCATGAACTGGTCCTGCAGGACCCCGGAGCCAAATCCAGTAACAGGGCGACCGCTCGTT AACATATACAACTGCTCTGGGGTGCAAGTTGGAGACAACAACTACTTGACTATGCAACAGACAACTGCCTTGCCC ACATGGGGCTTGGCACCTTCGGGCAAGGGGAGGGGCTTGCAGCACCCCCCACCAGTAGGTTCGCAAGAAGGCCCT AAAGATCCTGAAGCCTGGAGCAGGCCACAGGGTTGGTATAATCATAGCGGGAAATAA

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MESAGLEQLLRELLIPDTERIRRATEQLQIVLRAPAALPALCDLLASAADPQIRQFAAVLTRRRLNTRWRRLAAE
QRESLKSLILTALQRETEHCVSLSLAQLSATIFRKEGLEAWPQLLQLLQHSTHSPHSPEREMGLLLLSVVVTSRP
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MFYYPNVLQRHTGCFATIWLAATRGSRLVKREYLRVNVVKTCEEILNYVLVRVQPPQPGLPRPRFSLYLSAQLQI
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TTGTACCGCCTGGCCTGCGCTTAACTGGCATGGGCTGAGCCCCTTGGGCTGGCCATCATGCCGTAGCATCCAG ACCCTGCGAGTGCTTAGTGGAGATCTGGGCCAGCTTCCCACTGGCATTCGAGATTTTGTAGAGCACAGTGCCCGC CTGTGCCAACCAGAGGGCATCCACATCTGTGATGGAACTGAGGCTGAGAATACTGCCACACTGACCCTGCTGGAG CGAGTAGAGAGCAAGACGGTGATTGTAACTCCTTCTCAGCGGGACACGGTACAACTCCCGCCTGGTGGGGCCCGT GGCCGCACCATGTATGTGCTTCCATTCAGCATGGGTCCTGTGGGCTCCCCGCTGTCCCGCATCGGGGTGCAGCTC ACTGACTCAGCCTATGTGGTGGCAAGCATGCGTATTATGACCCGACTGGGGACACCTGTGCTTCAGGCCCTGGGA GATGGTGACTTTGTCAAGTGTCTGCACTCCGTGGGCCAGCCCCTGACAGGACAAGGGGAGCCAGTGAGCCAGTGG CCGTGCAACCCAGAGAAAACCCTGATTGGCCACGTGCCCGACCAGCGGAGATCATCTCCTTCGGCAGCGGCTAT GGTGGCAACTCCCTGCTGGGCAAGAAGTGCTTTGCCCTACGCATCGCCTCTCGGCTGGCCCGGGATGAGGGCTGG CTGGCAGAGCACATGCTGATCCTGGGCATCACCAGCCCTGCAGGGAAGAAGCGCTATGTGGCAGCCGCCTTCCCT AGTGCCTGTGGCAAGACCAACCTGGCTATGATGCGGCCTGCACTGCCAGGCTGGAAAGTGGAGTGTGTGGGGGAT GATATTGCTTGGATGAGGTTTGACAGTGAAGGTCGACTCCGGGCCATCAACCCTGAGAACGGCTTCTTTGGGGTT  ${\tt GCCCCTGGTACCTCTGCCACCACCACCCAATCCCAACGCCATGGCTACAATCCAGAGTAACACTATTTTTACCAATGTG}$ GCTGAGACCAGTGATGGTGGCGTGTACTGGGAGGGCATTGACCAGCCTCTTCCACCTGGTGTTACTGTGACCTCC  $\tt TGGCTGGGCAAACCCTGGAAACCTGGTGACAAGGAGCCCTGTGCACATCCCAACTCTCGATTTTGTGCCCCGGCT$ CGCCAGTGCCCCATCATGGACCCAGCCTGGGAGGCCCCAGAGGGTGTCCCCATTGACGCCATCATCTTTGGTGGC CGCTCTGAGTCCACTGCTGCAGCAGAACACAAAGGGAAGATCATCATGCACGACCCATTTGCCATGCGGCCCTTT TTTGGCTACAACTTCGGGCACTACCTGGAACACTGGCTGAGCATGGAAGGGCGCAAGGGGGCCCAGCTGCCCCGT ATCTTCCATGTCAACTGGTTCCGGCGTGACGAGGCAGGGCACTTCCTGTGGCCAGGCTTTGGGGAGAATGCTCGG  $\tt GTGCTAGACTGGATCTGCCGGCGGTTAGAGGGGGAGGACAGTGCCCGAGAGACACCCATTGGGCTGGCCAAAG$ GAACAGGAGGTTCGTGACATTCGGAGCTACCTGACAGAGCAGGTCAACCAGGATCTGCCCAAAGAGGTGTTGGCT GAGCTTGAGGCCCTGGAGAGACGTGTGCACAAAATGTGACCTGAGGCCCTAGTCTAGCAAGAGGACATAGCACCC AGACCTTCCCACAAAGACTGTCCAATAATAAGAGATGCTTATCTATTTT

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DFWEQEVRDIRSYLTEQVNQDLPKEVLAELEALERRVHKM

TACATTGGGTCTACTGCACAAATTACAGGGCTCCAAGTGTCTTATGAGAGCAGGACTTGGGCTGACCATGTCTCT CTGCCCTCACCCATGCTCTGCTCTGATTTCAGATCCTAAGTGTGAACGTGAAGTCCCCAGCCCTGCTGCTGAGCC GCACAGAAATACAGTCGGTAGCACAGCCAGTAGTGGGTAGAGGACAGAAGAGGTCTGGGATCTCCACATCCCTCA TCTTCTTGTCCTGCCTCCCCATCTGTGTGGCTGCCATTCCCAATTCCAGTGGCTGCAGGATGAGAGTAGTATTCC AGGGGCCCAGGCATAGCCTCCTTGGCCTTGACATCAGCAGGTTTGGGACAAGGCTATGCTTTAACTCCTTGACCT TGTGGGCTGGTCATTGTCACCTTACCTGCTCTCTGTTCTTACCAACTTAAAACCAATGACAGGGTTAGCCCCATT CCAGGTCCTGCAGATCTGACTGTACCCCTCACAGACACCCCTTAGGAACTGGCCAGGGGCTGTCTTCAGTAGAA GGAAAGTTCCTGACTGTCACTTCTGGTCTCCCTTACCCCATCTGCTCCTTAGAGGTTGCTCATTGATAGGCACTC ACCATCAGCCTTGGGTGCCTCTTCACAAAGCCCACCCTGCCCTCTCCTTCAAGCACCTGGCAAGAGAGAAGCAG AAGATAAGGGTTCTGAGCATGGACATCGTATTTATGAGAAATAGGCATGGAATCCTAGCTCTGCCGTGTATTGGC TGGTACTAAACCTTTCTGAGCCTCAGTTTTCTGAACTCTGAGATGGGGACAGTAATAGGACCTGTGTTGCTTCTG TGAGGGTTGCATCATTTAATGAACTCATGATAGTGTCACCATCAGTGGTAAGCTCTTAGCTTCAGCTTCTCTTAT GTTTGTCTTGTCTCAGGAGGGGTGCTGTCATCCTGGTCTCTTCCATTGCAGCTTATAATCCAGTAGTGGTAAGTG  $\verb|CTTGGTCCTTGTGCTCCTGAGTGGTATAGGGTGAGGGGCAACTTTGTTCTTTTCCTCAGAGCCTTACAGACAAAG| \\$ GGCCTGTGAGATCCCTGTAGGTGAGAAATCCAACTGATGCTTTCCCCCACTCTCCCATATCCTAATCACTCTGTC AATTCCCTTCCCAGGCGCTGGGTGTCTACAATGTCAGCAAGACAGCGCTGCTGGGTCTCACTAGAACACTGGCAT TGGAGCTGGCCCCCAAGGACATCCGGGTAAACTGCGTGGTTCCAGGAATTATCAAAACTGACTTCAGCAAAGTGG TGAGGATTGGGTGTCTTCCATCTCCCAGTCTGGCTCAGTGGGAACCCTTCCCAGTGAATAAGGGATCAAGGGG TGACTGAATCCTTAGGTCAGCATGCCTATGACTGAGGTCCTCATTGTTCTCTGAACTCAGCCATGGTGCAGTCCA TCCATCCTGAAAAGATGCTCCTTCTTTTGAGAAGGGCAAAGCTGCCCTAGGTGTTCTGCCTGGTGGCCTTCCCGG GGCCCTGCCCATCTTGTTTTAGTAGCACTGACTCCTTCATTTCTTCCCTTTGCCCAGTTTCATGGGAATGAGTCT CTCTGGAAGAACTTCAAGGAACATCATCAGCTGCAGAGGCAAGTGGGGTTTGGAGATTTGGTGGTCCATGTGTGG GGAGTCCACATGGCCCTGGAGGGTGCAAGTAGCCCTGCTGCATCCACCTTGTTCCCCATGGAGCCCACTCCCACC TGGGGAGTCAGAGGACTGTGCAGGAATCGTGTCCTTCCTGTGCTCTCCAGATGCCAGCTACGTCAACGGGGAGAA GAGCCTGAGGGGGTGTCTAGGTGATCATTTGGATCTGGAGGCAGAGTCTGCCATTCTGCCAGACTAGCAATTTGG GGGCTTACTCATGCTAGGCTTGAGGAAGAAGAAAAACGCTTCGGCATTCTCCTTAGGACTTATCTGCTTGTAGAT TTGGCTGATCCAATTAACATGTGGGGTTCTTGGTGTGGGGTCTGGGGGAGCTGAAGGATTTTATGGAGCTGGTGCTT CTTTAAGCATTTTTTTCCTAAAATAAACTCAAATTTATCCTC

GGTTCCCTTCCACGCTGTGGAAGCTTTGTTCTTTTGGTCTTCATGATAAATCTTGCTGCTGCTCACTCGTTGGGT CCGTGCCACCTTTAAGAGCTGTAACACTCACCGCGAAGGTCTGCAACTTCACTCCTGGGGCCAGCAAGACCACGA ATGCACCGAGAGGAATGAACAACTCTGGACACACCATCTTTAAGAACCGTAATACTCACCGCAAGGGTCTGCAAC TTCATTCTTGAAGTCAGTGAGGCCAAGAACCCATCAATTCCGTACACATTTTGGTGACTTTGAAGAGACTGTCAC CTATCACCAAGTGGTGAGACTATTGCCAAGCAGTGAGACTATTGCCAAGTGGTGAGACCATCACCAAGCGGTGAG  ${\tt CCCGGGGCTACCAGGGCTGGTTCATCCCTGTGCTAGGCTTTCTGTGAGGATGAGCAGCACCGGGATAGACAGGA}$ AGGGCGTCCTGGCTAACCGGGTAGCCGTGGTCACGGGGTCCACCAGTGGGATCGGCTTTGCCATCGCCCGACGTC TGGCCCGGGACGGGCCCACGTGGTCATCAGCAGCCGGAAGCAGCAGAACGTGGACCGGGCCATGGCCAAGCTGC AGGGGGAGGGCTGAGTGTGGCGGCATTGTGTGCCACGTGGGGAAGGCTGAGGACCGGGAGCAGCTGGTGGCCA AGGCCCTGGAGCACTGTGGGGGGCGTCGACTTCCTGGTGTGCAGCGCAGGGGTCAACCCTCTGGTAGGGAGCACTC TGGGGACCAGTGAGCAGATCTGGGACAAGATCCTAAGTGTGAACGTGAAGTCCCCAGCCCTGCTGCTGAGCCAGT TGCTGCCCTACATGGAGAACAGGAGGGGTGCTGTCATCCTGGTCTCTTCCATTGCAGCTTATAATCCAGTAGTGG CGCTGGGTGTCTACAATGTCAGCAAGACAGCGCTGCTGGGTCTCACTAGAACACTGGCATTGGAGCTGGCCCCCA AGGACATCCGGGTAAACTGCGTGGTTCCAGGAATTATCAAAACTGACTTCAGCAAAGTGTTTCATGGGAATGAGT CTCTCTGGAAGAACTTCAAGGAACATCATCAGCTGCAGAGGATTGGGGAGTCAGAGGACTGTGCAGGAATCGTGT CCTTCCTGTGCTCTCCAGATGCCAGCTACGTCAACGGGGAGAACATTGCGGTGGCAGGCTACTCCACTCGGCTCT GAGAGGAGTGGGGGCGGCTGCGTAGCTGTGGTCCCAGGCCCAGGAGCCTGAGGGGGTGTCTAGGTGATCATTTGG ATCTGGAGGCAGAGTCTGCCATTCTGCCAGACTAGCAATTTGGGGGGCTTACTCATGCTAGGCTTGAGGAAGAAGA AAAACGCTTCGGCATTCTCC

TCTTGTGCCCGGGGCCGGTGGGGAGGCCGGGGAGGGCCCCGGGGGGCGCAGGGGACTACGGGAACGCCTGGA GTCTGAGGAACTGGAGCCTGAGGAGCTGCTGCTGGAGCCCGAGCCCGAGCCCGAAGAGGAGCCGCCCCG GCCCGGCCCCCCGGGAGCTCCGGGCCCTGGGCCTGGTTCGGGAGCCCCCGGCAGCCAAGAGGAGGAGGAGGA GCGGGGAATAACGTGGCTGGGGCCGGGTCGGCCCGGGATGGGTCACTACAAGGGGCCCGACTGGCTT GATTCGGGCGTCACGGTTGCCTAGTGTTGTTCTAGAGAGGGTAGCTTTTCTTTTATCACGACCCTCGCATGGGGC GAGGGAAATGGCCGAGCATGGCTGAGGCCGCGCTCTGGCCGAGAGCAGGCCACAGCCCCTGCGTTGGTTCCTCTT AAGCTGTCCTCCATACCCTCCCCACTTATATTAGGAGCTGGAAGCTATCAAAGCTCGAGTCAGGGAGATGGAGGA AGAAGCTGAGAAGCTAAAGGAGCTACAGAACGAGGTAGAGAAGCAGATGAATATGAGTCCACCTCCAGGCAATGC TGGCCCGGTGATCATGTCCATTGAGGAGAAGATGGAGGCTGATGCCCGTTCCATCTATGTTGGCAATGTGGACTA  $\tt TGGTGCAACAGCAGAAGAGCTCACTTTCATGGCTGTGGTTCAGTCAACCGTGTTACCATACTGTGTGA$ CAAATTTAGTGGCCATCCCAAAGGGTTTGCGTATATAGAGTTCTCAGACAAAGAGTCAGTGAGGACTTCCTTGGC CTTAGATGAGTCCCTATTTAGAGGAAGGCAAATCAAGGTGATCCCAAAACGAACCAACAGACCAGGCATCAGCAC AACAGACCGGGGTTTTCCACGAGCCCGCTACCGCGCCCGGACCACCAACTACAACAGCTCCCGCTCTCGATTCTA  ${\tt CAGTGGTTTTAACAGCAGGCCCCGGGGTCGCGTCTACAGGTCAGGATAGATGGGCTGCTCTTTTCCCCCGCCT}$ CCCGTG

#### 4303/6881 FIGURE 3969A

CACGCTCAGAGCAGACCGCTAGCAGGAGGCAGGATGTGATAGTCTAAGACCCTGGAAGCTGACGGCCAGAGGGAG GGAAGGGTGGTCACAGAGGAGGGGAAGCAAGCAACGGGAGGTGGAGGATCCTGGAGGTGTCTGCAAGGAGAATACAC  ${\tt GGAGCGCGGTGGCGCTGCGAGCTGGCCCCGGGGAAGGGGCTGCC} {\tt ATG} {\tt TCCCGTGAGCGGCCCCCGGGCACCG}$ AGGAGGAGCCGGAGGAGGAGCCAGGCGAGGGCGGGACGCGGTTCGGGGCCCGATCCCGCGCTCACGCACCGAGTC GGGGCCGCCGGGCCCGATCTGCACCAGCCGGAGGCGGCGGGGGCCCCGGGGCGCCCCGCAGCCGTAGCCCAGACACCC CCCGGGTGCCCGCCACGTGCAGATCCAATTGCAGAGGGACGCCCTCCGCCACTTCGCGCCCTGCCAGCCCCGCG CCCGCGGCCTCCAGGAGGCGCGCCCCGGAGCCGGCCAGCGAGCCCGGCTTCGCCGCCCCGCTTGCTGACGC TCTTCGCCTTGCGCTACCGTGTGACAGGTCACGAGTTCTGGGACAACAACGGCGGCCGTGACTATGCTCTACGTG GGCCCGAGCACCCGGGCAGTGGCGGAGCTCCGGAGCCGCAGGGCTGGATCCACTTTATC<u>TGA</u>GACGAGGCGCCTG AGGATTGGCGGGAGCGGTCCAAGGGAGTCAAGCCGGGGAGGGGGGAAAAGGGAACCTGGCCACTGCTCCTTGGTCC TGACAGTCTTCTAGAAGAGAGAAGGAGGAAAAGAAGCAGTTCCTGATGTTACAAATGAACAAGGATCTCCCAGCC CATCCTTGTCTTGTGAAGAAAACAGGAAGAATGTCATGTACCATGTGGATCACCTTCAGTTCAAAGTTGCAGCAA AGTGAAGAAGAAACTACTGGAAGCCACCCAGCAATGCACTGTTTAGTCATCAATTAGGAGCCCATGGGAGGATA AACAATAGTGAGGGCTCACATTTACTTAACACTTGTGTGCGCAAATCTGGGTTTTTCTTCCTTTCCAGAACTATG ACTCGATCATAAAATCTGTTTTGTTTGCATGCATGCCCAAAACAACCCTGTAAGTAGAACATTGTCATTATCTCT GTTTTAGAGATGAGGAAACAGGCTCAGAGAAGCTCAGAAATTTGTTCAAGATCGCACAGCTAGTAAATGGCAGAA CAAAATTTAAAACCTTGCTATAATCTCTTATTAGGAAATGATCATAGTTTCTGACTGTGCTCTGCCTTCCCATCC TGCCAATCTCCTGGACTGGCTTGGAGAAGACAGGGGGCCCCCGAGCTTCATCTGTGACTCGAAGGAGTTTGCTGC TGTCTCCTGTGTCAGTGTCCCATCTATGCAGGATCAGCACAGGACCCCCCTCACCTTCCCACTTACACTCTAGCC CCCCCACTGGCCTTGAACAGGCAAACCCCCTAATGTCGCCACTAGGTTGGGTCCGTGACTAGGACACCTGCTAGA GGGTCTGTGCTTGGGCCTTTTCTAGGAATCCCGATGTTACTGGGTAAGTGCCAACTCTGTGGGCAGAATGCTAAT GATAATCCTGTTCCCTGACCTCTTTCTCAGAAGTACCCTGGCTCACTCTCCCCAATCTCAGCTTTATAGAACAAC ATTTTGGTCTTGATTATTCCCATATCAAGCTGCCCCAGGGCTTCGGTAAGCTGTTAGTTGCCCCACTGCCTCAAG GCTGGGTCTGGCTGAGCTACTTCTTAGGCACACAAATAGTGGGTGTCTCCTTGGAACCTGACACAAAACTATCAG TGCTACCAAGCCTTGTAAAATAGGGAGGAAACTAATATTTCTTGAGTGGCTTCTGAGTGCCTGGTGCTTTCGCGG CTCTCTGGAGAGATTCCTTGCCCTGATGGCTTTGGTGTGTACTCCTCTCCCAGGACTTCAGCACTGAGATTTTCC CAACCCCTGGCTTTTCCTCACCTTGGGTTGAGTTGATCCGGCACTACCACAAACCCCACCATCTGCAAACCAAAC CAAGATTAGGCAGTATGCCCTTTCCGTCTTGCACTGCTCTTCCAAAACTTCCATCTGTATTTCTCACACCCTCAG TAAGCAAAGCTGAGTGTGCATGGACAGAGCTGCATCCACTGCTTTCTCCCAGCGGGTGCAGTCTAATCTGACACG GGGAACACTAGGAGTTTAGCGGAATCTTCAGCCACCCTATTAATGTGTTACGCATTAGGCATTGTAGTGGAAACT CCTCTGATGGCTCATGACTATATGAACAGGAGCAATTTGGAATATAACATGTCAGCTGTGGACTGGGAAGTGCCG TGAGAGAAAACACTACCTGGGTCATAGGCTTGGGTCCCTGAGGCAACCCAGCAGGGACACTGTTGCCCATTCCTC CTTTGTGAATGTAGAAAAACATTTCATCATGAGCCCTAGCTCCTCAGTTTTCCACCTAACACCCACATTCCCTTG TTTCTAACTGCCGTGTTTTTCTGGAGCCTGCTGGGATCTTTGCAGTTTGCAGTCATAGAATCAGACATGAAAAG

#### 4304/6881 FIGURE 3969B

MSRERPPGTDIPRNLSFIAALTERAYYRSQRPSLEEEPEEEPGEGGTRFGARSRAHAPSRGRRARSAPAGGGGAR APRSRSPDTRKRVRFADALGLELAVVRRFRPGELPRVPRHVQIQLQRDALRHFAPCQPRARGLQEARAALEPASE PGFAARLLTQRICLERAEAGPLGVAGSARVVDLAYEKRVSVRWSADGWRSQREAPAAYAGPAPPPPRADRFAFRL PAPPIGGALLFALRYRVTGHEFWDNNGGRDYALRGPEHPGSGGAPEPQGWIHFI

PCT/US2003/028547

#### 4306/6881 FIGURE 3971

AACGAGAGGTTCCGGAGCCCCGGCGGGGGGGTTCTGGGGTGTAGACGCTGCTGGCCAGCCCTCCCCAGCCGAG TTCTGCTCACCTGGAGAAGGGATGGAAATACTTCAACAAGTGTGCAGCAAACAACTTCCTCCTTGTAACCTGAGT AAAGAGGACCTGTTACAGAACCCATACTTCAGCAAGCTTCTCCTGAATCTCTCACAGCATGTGGATGAGAGTGGC TCTGAGATTTTACACAGAGTCATTCAAGAGTTGCTTGTGGACTACTATGTGAAGATACAAGACACAAATGTAACT TCTGAGGACAAAAAGTTTCATGAGACCCTTGAACAGCGGCTGCTTGTAACTGAACTGATGCGGCTCTTAGGTCCT AGCCAGGAGAGGGAGATACCTCCACTGCTGGGGCTGGAGAAAGCGGACCTTCTGGAACTCATGCCACTCACAGAG GATTTTGTGTGGATGAGGGCTCGGCTACAGCAAGAAGTAGAGGAGCAGCTCAAAAAGAAATGTTTCACTCTGCTC TGCTACTATGATCCCAATTCAGATGCTGACAGTGAAACCGTGAAGGCAGCAAAGGTGTGGAAACTCGCAGAGGTC CTGGTGGGTGAGCAGCAGCAGTGCCAGGATGCCAAGAGCCAGCAGAAGGAGCAGATGTTGCTGCTGGAGAAGAAG AGTGCTGCTTACTCCCAGGTGCTTCTCCGCTGCCTCACTTTGCTGCAGAGGCTTCTTCAAGAACACCGGCTGAAG ACTCAATCCGAGCTAGACCGCATCAATGCCCAGTACCTGGAAGTCAAGTGCGGTGCTATGATCCTTAAGCTGAGG ATGGAGGAGCTAAAGATTTTGTCCGACACTTACACTGTTGAGAAAGTGGAAGTTCATCGTCTGATTAGGGACCGT TTGGAGGGAGCCATTCACCTACAGGAGCAGGACATGGAGAACTCAAGACAGGTCCTGAACTCCTATGAGGTCCTT GGGGAGGAGTTTGACAGGCTGGTGAAAGAGTACACCGTACTCAAGCAGGCAACAGAGAACAAGCGGTGGGCCCTC  ${\tt CAGGAGTTCAGCAAGGTCTACCGT} \underline{{\tt TGA}}{\tt GCTCTGGCAGGGGCCAGGAGACATGGCTTCTGCATAGCTGCCTCCT}$ AATCTTCCTGCTAGTGGGACCACCTTCACCTGGGGCTGCCTTCAGTGCAAGGGAGTGTGGAAATGCTTACGCTTG AAACACTGCAGTCATTTAGGCACTCTCCTGGTTTCTCTTTATTTTTTTATGACTGGGCCTCTTCTGGAAAATCTAG 

MASGDFCSPGEGMEILQQVCSKQLPPCNLSKEDLLQNPYFSKLLLNLSQHVDESGLSLTLAKEQAQAWKEVRLHK
TTWLRSEILHRVIQELLVDYYVKIQDTNVTSEDKKFHETLEQRLLVTELMRLLGPSQEREIPPLLGLEKADLLEL
MPLTEDFVWMRARLQQEVEEQLKKKCFTLLCYYDPNSDADSETVKAAKVWKLAEVLVGEQQQCQDAKSQQKEQML
LLEKKSAAYSQVLLRCLTLLQRLLQEHRLKTQSELDRINAQYLEVKCGAMILKLRMEELKILSDTYTVEKVEVHR
LIRDRLEGAIHLQEQDMENSRQVLNSYEVLGEEFDRLVKEYTVLKQATENKRWALQEFSKVYR

GCGACTCGTCCCGCCTTCTGGGGCACTAGTTTGACTTTGTGATTGGCTACTAGTATCAAGGAATCCCGGCGTGGA GAATTGCGTCCCGAAATAGCTGACACACTAGGGGCTGTGGCCAAGCAGGGGTTTGATTTCCTCTGCATGCCTGT CTTCCATCCGCGTTTCAAGAGGGAGTTCATTCAGGAACCTGCTAAGAATCGGCCCGGTCCCCAGACACGATCAGA CCTACTGCTGTCAGGAAGGGACTGGAATACGCTAATTGTGGGAAAGCTTTCTCCATGGATTCGTCCAGACTCAAA AGTGGAGAAGATTCGCAGGAACTCCGAGGCGGCCATGTTACAGGAGCTGAATTTTGGTGCATATTTGGGTCTTCC CCATCACTCTTCCATGTTCTGGATGCGGGTACCCTTGGTGGCACCAGAGGACCTGAGAGATGATATAATTGAGAA TGCACCAACTACACACAGAGGAGTACAGTGGGGAGGAGAAAACGTGGATGTGGTGGCACAACTTCCGGACTTT GTGTGACTATAGTAAGAGGATTGCAGTGGCTCTTGAAATTGGGGCTGACCTCCCATCTAATCATGTCATTGATCG CTGGCTTGGGGAGCCCATCAAAGCAGCCATTCTCCCCACTAGCATTTTCCTGACCAATAAGAAGGGATTTCCTGT TCTTTCTAAGATGCACCAGAGGCTCATCTTCCGGCTCCTCAAGTTGGAGGTGCAGTTCATCATCACAGGCACCAA CCACCACTCAGAGAAGGAGTTCTGCTCCTACCTCCAATACCTGGAATACTTAAGCCAGAACCGTCCTCCACCTAA TGCCTATGAACTCTTTGCCAAGGGCTATGAAGACTATCTGCAGTCCCCGCTTCAGCCACTGATGGACAATCTGGA ATCTCAGACATATGAAGTGTTTTGAAAAGGACCCCATCAAATACTCTCAGTACCAGCAGGCCATCTATAAATGTCT GCTAGACCGAGTACCAGAAGAGGAGAAGGATACCAATGTCCAGGTACTGATGGTGCTGGGAGCAGGACGGGACC  ${\tt CCTGGTGAACGCTTCCCTGCGGGCAGCCAAGCAGGCCGACCGGCGGATAAAGCTGTATGCTGTGGAGAAAAACCC}$ AAATGCCGTGGTGACGCTAGAGAACTGGCAGTTTGAAGAATGGGGAAGCCAAGTGACCGTAGTCTCATCAGACAT GAGGGAATGGGTGGCTCCAGAGAAAGCAGACATCATTGTCAGTGAGCTTCTGGGCTCATTTGCTGACAATGAATT GTCGCCTGAGTGCCTGGATGGAGCCCAGCACTTCCTAAAAGATGATGGTGTGAGCATCCCCGGGGAGTACACTTC  $\verb|CTTTCTGGCTCCCATCTCTTCCTCCAAGCTGTACAATGAGGTCCGAGCCTGTAGGGAGAAGGACCGTGACCCTGA| \\$ GGCCCAGTTTGAGATGCCTTATGTGGTACGGCTGCACAACTTCCACCAGCTCTCTGCACCCCAGCCCTGTTTCAC CTTCAGCCATCCCAACAGAGATCCTATGATTGACAACAACCGCTATTGCACCTTGGAATTTCCTGTGGAGGTGAA CACAGTACTACATGGCTTTGCCGGCTACTTTGAGACTGTGCTTTATCAGGACATCACTCTGAGTATCCGTCCAGA GACTCACTCTCCTGGGATGTTCTCATGGTTTCCCATCCTCTTCCCTATTAAGCAGCCCATAACGGTACGTGAAGG CCAAACCATCTGTGTGCGTTTCTGGCGATGCAGCAATTCCAAGAAGGTGTGGTATGAGTGGGCTGTGACAGCACC AGTCTGTTCTGCTATTCATAACCCCACAGGCCGCTCATATACCATTGGCCTC<u>TAG</u>CCCTGCGTGCCAAGTGTCCA GAGCCTTGGAAGCAGCTTCAGGTTCCTGCTCCTGTAGTACAGAAGGTGCAGTACATCTATGGGCTGTGATTCCCC GCAGGGCTCAAGCCACCAATCTATGAAGACCTCAGGCCAGGGGGTGAGGAATTAGTGCTGGATTTGAAGCTACGC ACTCAGCCTCAAGAACTCCCTGGAATATCCCTGAGAACATGGGGTTTGAACGGATTTTCAGCCTTTTTCTGTTCT ΑΑΑΑΑΑΑΑΑΑΑΑ

MAAMAVGGAGGSRVSSGRDLNCVPEIADTLGAVAKQGFDFLCMPVFHPRFKREFIQEPAKNRPGPQTRSDLLLSG RDWNTLIVGKLSPWIRPDSKVEKIRRNSEAAMLQELNFGAYLGLPAFLLPLNQEDNTNLARVLTNHIHTGHHSSM FWMRVPLVAPEDLRDDIIENAPTTHTEEYSGEEKTWMWWHNFRTLCDYSKRIAVALEIGADLPSNHVIDRWLGEP IKAAILPTSIFLTNKKGFPVLSKMHQRLIFRLLKLEVQFIITGTNHHSEKEFCSYLQYLEYLSQNRPPPNAYELF AKGYEDYLQSPLQPLMDNLESQTYEVFEKDPIKYSQYQQAIYKCLLDRVPEEEKDTNVQVLMVLGAGRGPLVNAS LRAAKQADRRIKLYAVEKNPNAVVTLENWQFEEWGSQVTVVSSDMREWVAPEKADIIVSELLGSFADNELSPECL DGAQHFLKDDGVSIPGEYTSFLAPISSSKLYNEVRACREKDRDPEAQFEMPYVVRLHNFHQLSAPQPCFTFSHPN RDPMIDNNRYCTLEFPVEVNTVLHGFAGYFETVLYQDITLSIRPETHSPGMFSWFPILFPIKQPITVREGQTICV RFWRCSNSKKVWYEWAVTAPVCSAIHNPTGRSYTIGL

# FIGURE 3975

GGTTCTGGAAGACGGCAGAGCTGCCGCCATTTTGCGGGAAGAGGGGCTCTGTACCTGCAGTGCTGCTTTTCTTG CCTAGACTCTAGGAACTATCCGAGCTCCACTCCCCACAACATACTCAAAGGAACGGAGAACCGGGACCCCCCT GCGGGGACCCGGAACTGATCTGACAGGATGGCATCTGATGACTTTGACATAGTGATTGAGGCCATGCTGGAAGCT CCCTATAAAAAGAAGAGGATGAGCAACAAAGGAAAGAAGTTAAAAAGGATTATCCTAGCAATACCACCAGCAGC ACCAGCAACAGTGGCAATGAGACCAGTGGAAGCAGCACCATCGGGGAGACAAGCAATCGTAGTCGAGATCGGGAT CGGTATAGACGGAGAAATAGTCGGAGCCGAAGTCCAGGTCGGCAGTGTCGTCACCGTAGCCGTAGCTGGGATCGT CGACATGGTAGTGAGTCGCGAAGTCGGGACCATCGTCGTGAGGATCGTGTGCATTACAGGAGTCCTCCACTTGCC CTGAGTCCTGAGGAGCGTGATGCCCGCACAGTTTTCTGTATGCAGTTAGCTGCCCGAATTCGGCCTCGAGATCTG GAGGACŢTTTTCTCTGCTGTAGGCAAGGTTCGCGATGTACGTATCATCTCAGATCGGAACTCACGTCGTTCTAAG GGCATTGCCTACGTGGAATTCTGTGAAATCCAGTCTGTGCCACTGGCCATTGGGCTGACTGGCCAGCGGTTGCTG GGAGTGCCTATCATTGTACAGGCTTCACAGGCAGAGAAAAACCGACTGGCAGCCATGGCCAACAACCTGCAAAAG GGCAATGGTGGACCAATGCGCCTCTATGTGGGTTCCCTGCACTTCAATATCACTGAAGACATGCTCCGGGGCATC TTTGAGCCCTTTGGTAAAATTGATAATATTGTCCTGATGAAGGACTCAGATACAGGCCGCTCTAAAGGTTATGGT TTCATCACGTTCTCTGATTCTGAGTGTGCCCGGCGGGCCCTGGAACAGTTGAATGGGTTTGAGCTTGCTGGTCGA CCTATGAGGGTTGGCCATGTGACTGAGCGACTGGATGGTGGCACAGACATCACTTTTCCTGATGGGGACCAGGAG CTGGATCTGGGATCAGCAGGTGGACGTTTTCAGCTCATGGCAAAACTGGCAGAAGGCGCTGGAATCCAACTGCCA AGCACTGCTGCTGCTGCTGCCGCCGCCGCCCAGGCTGCCTTGCAACTGAATGGAGCAGTTCCCTTGGGG GCCCTGAATCCAGCAGCTCTGACTGCTCTGAGTCCAGCCCTGAACCTTGCCTCCCAGTGTTTCCAGCTCTCCAGC CTCTTTACCCCCCAGACCATGTAAATCAGTGGCACAGTATACTGCCTCCTTGTGCCTCTGGATCCTGCCACTTCA CATCTACTCTTCCATGGCCCCATTTCTCCATTTTGTGGACCAAGCCATCCTGAGGGCATGGACATTGTCTCTGAG GAAATTGGGGCCACCCTTAAGATACCAAGAAAAGCTCCTGCCCATGGTCCCACTGGAAATGGACTCTGCTGAGCA AAGCCACCAGTTGAAGAAACAGAATCCACACCTGCATTGAATACCTGTTTCTCCATGTGTATCGTCTCTGAGAT TACCTTCTTGCCCTTTCCAACACCTTAGTGATTCCTCAATTTCTCCCCCATTGGGAAGGCCATAGGGCATACTGA AGGAACTGACCTCTCCTCTTTTCCTGTACCTTTAACCTTTAGTCTGTCAAGGAAAACCCTTAGGACCTCTGAATC AAGAGGACTGAGTTTGTGGGTGAACCTTGAAGGTGCTCTTTCTGCTACAAGGGCCCTGGGAGATAGCATGGACGT GCATTGAGAAGCCAGCCTCAGACCTTAGCTTGAAGCAGCTTGAGGCCAGACCTACTGTAGCCTCAGCATCTTGCT AGGAGGCATGGAAGTGATCTATCCTGCCAGGAGGCCTCAGAGTGATCTGTCCTGCCAGGAGGTGTGAGAGTGATC TGTCCTGTGAGGCATTTAGGGGCTTTCAGGAATTTAGTAAAAGGTGGAGTATGCCTTTCCAGTATCTTCCATCTT ACCACTTCCTGTGTGCCTCTACTGTGGCCTCAACCCTGGCAATTATAGCTACTCCCATCCCTTACCTGGGCATGT **ACTTTGTAC** 

AGGAACAATCCCCTTTAACTCCAAGCCGACAGCGGTCTAGGAATTCAAGTTCAGTGCCTACCGAAGACAAAGGCG TCTCGGACCATGTCTCCCGCCCCAAGACCCCCCGTTGTCTCCTGCTCCCCCTGCTCACGCTCGGCACCGCGCTC GCCTCCCTCGGCTCGGCCCAAAGCAGCAGCTTCAGCCCCGAAGCCTGGCTACAGCAATATGGCTACCTGCCTCCC GGGGACCTACGTACCCACACACACGCGCTCACCCCAGTCACTCTCAGCGGCCATCGCTGCCATGCAGAAGTTTTAC GGCTTGCAAGTAACAGGCAAAGCTGATGCAGACACCATGAAGGCCATGAGGCGCCCCCGATGTGGTGTTCCAGAC AAGTTTGGGGCTGAGATCAAGGCCAATGTTCGAAGGAAGCGCTACGCCATCCAGGGTCTCAAATGGCAACATAAT GAAATCACTTTCTGCATCCAGAATTACACCCCCAAGGTGGGCGAGTATGCCACATACGAGGCCATTCGCAAGGCG TTCCGCGTGTGGGAGAGTGCCACACCACTGCGCTTCCGCGAGGTGCCCTATGCCTACATCCGTGAGGGCCATGAG AAGCAGGCCGACATCATGATCTTCTTTGCCGAGGGCTTCCATGGCGACAGCACGCCCTTCGATGGTGAGGGCGGC TTCCTGGCCCATGCCTACTTCCCAGGCCCCAACATTGGAGGAGACACCCACTTTGACTCTGCCGAGCCTTGGACT GTCAGGAATGAGGATCTGAATGGAAATGACATCTTCCTGGTGGCTGTGCACGAGCTGGGCCATGCCCTGGGGCTC GATGATGACCGCCGGGGCATCCAGCAACTTTATGGGGGTGAGTCAGGGTTCCCCACCAAGATGCCCCCTCAACCC AGGACTACCTCCCGGCCTTCTGTTCCTGATAAACCCAAAAACCCCACCTATGGGCCCAACATCTGTGACGGGAAC TTTGACACCGTGGCCATGCTCCGAGGGGAGATGTTTGTCTTCAAGGAGCGCTGGTTCTGGCGGGTGAGGAATAAC GAGAGGAAGGATGGCAAATTCGTCTTCTAAAGGAGACAAGCATTGGGTGTTTGATGAGGCGTCCCTGGAACCT GGCTACCCCAAGCACATTAAGGAGCTGGGCCGAGGGCTGCCTACCGACAAGATTGATGCTGCTCTCTTCTGGATG CCCAATGGAAAGACCTACTTCTTCCGTGGAAACAAGTACTACCGTTTCAACGAAGAGCTCAGGGCAGTGGATAGC GTCTTCACTTACTTCTACAAGGGGAACAAATACIGGAAATTCAACAACCAGAAGCTGAAGGTAGAACCGGGCTAC  $\tt CTGCTGCTCCTGGTGCTGGCGGTGGGCCTTGCAGTCTTCTTCTTCAGACGCCATGGGACCCCCAGGCGACTGCTC$  ${\tt TACTGCCAGCGTTCCCTGCTGGACAAGGTC\underline{{\tt TGA}}CGCCCACCGCCGGCCCGCCCACTCCTACCACAAGGACTTTGC}$ CTTTGTGTCTGTCCAGCCCCATCTGAATGTGTTGGGGGGCTCTGCACTTGAAGGCAGGACCCTCAGACCTCGCTGG TAAAGGTCAAATGGGGTCATCTGCTCCTTTTCCATCCCCTGACATACCTTAACCTCTGAACTCTGACCTCAGGAG GCTCTGGGCACTCCAGCCCTGAAAGCCCCAGGTGTACCCAATTGGCAGCCTCTCACTACTCTTTCTGGCTAAAAG GAATCTAATCTTGTTGAGGGTAGAGACCCTGAGACAGTGTGAGGGGGTGGGGACTGCCAAGCCACCCTAAGACCT CCCCAGGGAACTTCCAAGGAAGGAGCCTGAGCCACTGGGGGACTAAGTGGGCAGAAGAAACCCTTGGCAGCCCTGT GCCTCTCGAATGTTAGCCTTGGATGGGGCTTTCACAGTTAGAAGAGCTGAAACCAGGGGTGCAGCTGTCAGGTAG AAACTCAGGCAGCTGGGGCTGAGGCCCAAAGGCAGAACAGCCAGAGGGGGCCAGAGAGGGGGACCAAAAAGGAAAATG GTGGAGCTCTCAGGAAGGCCCTGAGGAAGGCACACTTGCTCCTGTTGGTCCCTGTCCTTGCCCCAGGCAGCG TGGAGGGGAAGGGTAGGGCAGCCAGAGAAAGGAGCAGAAAGGCACACAAACGAGGAATGAGGGGCTTCACGAGA GGCCACAGGGCCTGGCCACGCTGTCCCGGCCTGCTCACCATCTCAGTGAGGGGCAGGAGCTGGGGCTCGCT TAGGCTGGGTCCACGCTTCCCTGGTGCCAGCACCCCTCAAGCCTGTCTCACCAGTGGCCTGCCCTCTCGCTCCCC CACCCAGCCCACCCATTGAAGTCTCCTTGGGCCACCAAAGGTGGTGGCCATGGTACCGGGGACTTGGGAGAGTGA TATATGAATTCCAAAAAAAAAAAAAAAAAAAAAAAA

MSPAPRPPRCLLLPLITLGTALASLGSAQSSSFSPEAWLQQYGYLPPGDLRTHTQRSPQSLSAAIAAMQKFYGLQ
VTGKADADTMKAMRRPRCGVPDKFGAEIKANVRRKRYAIQGLKWQHNEITFCIQNYTPKVGEYATYEAIRKAFRV
WESATPLRFREVPYAYIREGHEKQADIMIFFAEGFHGDSTPFDGEGGFLAHAYFPGPNIGGDTHFDSAEPWTVRN
EDLNGNDIFLVAVHELGHALGLEHSSDPSAIMAPFYQWMDTENFVLPDDDRRGIQQLYGGESGFPTKMPPQPRTT
SRPSVPDKPKNPTYGPNICDGNFDTVAMLRGEMFVFKERWFWRVRNNQVMDGYPMPIGQFWRGLPASINTAYERK
DGKFVFFKGDKHWVFDEASLEPGYPKHIKELGRGLPTDKIDAALFWMPNGKTYFFRGNKYYRFNEELRAVDSEYP
KNIKVWEGIPESPRGSFMGSDEVFTYFYKGNKYWKFNNQKLKVEPGYPKSALRDWMGCPSGGRPDEGTEEETEVI
IIEVDEEGGGAVSAAAVVLPVLLLLLVLAVGLAVFFFRRHGTPRRLLYCQRSLLDKV

PCT/US2003/028547

# FIGURE 3978

# FIGURE 3979

MAALGTVLFTGVRRLHCSVAAWAGGQWRLQQGLAANPSGYGPLTELPDWSYADGRPAPPMKGQLRRKAERETFAR RVVLLSQEMDAGLQAWQLRQQKLQEEQRKQENALKPKGASLKSPLPSQ

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#### 4315/6881 FIGURE 3980

AGCTGTTGCAGCATGAGCGATACGCTTGGTTCTCCTAACTAGCACCTTCCCCTCTCCCCTGACTCAGCTGGTAGC GGAGGAGCATCAGACCACAGATCCTGGAAGGCACTTCTCTCCCTGACTGCTGCTCACACTGCCGTGAGAACCTGC  $\verb|TTATATCCAGGACCAAGGAGGCAATGCCAGGAAGCTGGTGAAGGGTTTCCTCTCCTCCACCATGGTTGACAGCAC|$ TGAGTATGAAGTGGCCTCCCAGCCTGAGGTGGAAACCTCCCCTTTGGGTGATGGGGCCAGCCCAGGGCCGGAGCA GGTGAAGCTGAAGAAGGAGATCTCACTGCTTAACGGCGTGTGCCTGATTGTGGGGAACATGATCGGCTCGGGCAT CTTTGTTTCCCCCAAGGGTGTGCTCATATACAGTGCCTCCTTTGGTCTCTCTGGTCATCTGGGCTGTCGGGGG CCTCTTCTCCGTCTTTGGGGCCCTTTGTTATGCGGAACTGGGCACCACCATTAAGAAATCTGGGGCCAGCTATGC CTATATCCTGGAGGCCTTTGGAGGATTCCTTGCTTTCATCAGACTCTGGACCTCCCTGCTCATCATTGAGCCCAC CAGCCAGGCCATCATTGCCATCACCTTTGCCAACTACATGGTACAGCCTCTCTCCCGAGCTGCTTCGCCCCTTA TGCTGCCAGCCGCCTGCTGCCTGCCTGCATTTGTCTCTTAACCTTCATTAACTGTGCCTATGTCAAATGGGG AACCCTGGTACAAGATATTTTCACCTATGCTAAAGTATTGGCACTGATCGCGGTCATCGTTGCAGGCATTGTTAG ACTTGGCCAGGGAGCCTCTACTCATTTTGAGAATTCCTTTGAGGGTTCATCATTTTGCAGTGGGTGACATTGCCCT GGCACTGTACTCAGCTCTGTTCTCCTACTCAGGCTGGGACACCCTCAACTATGTCACTGAAGAAGAATCAAGAATCC TGAGAGGAACCTGCCCTCTCCATTGCCATCTCCATGCCCATTGTCACCATCATCTATATCTTGACCAATGTGGC CTATTATACTGTGCTAGACATGAGAGACATCTTGGCCAGTGATGCTGTTGCTGACTTTTGCAGATCAGATATT TGGAATATTTAACTGGATAATTCCACTGTCAGTTGCATTATCCTGTTTTGGTGGCCTCAATGCCTCCATTGTGGC TGCTTCTAGGCTTTTCTTTGTGGGCTCAAGAGAAGGCCATCTCCCTGATGCCATCTGCATGATCCATGTTGAGCG GTTCACACCAGTGCCTTCTCTGCTCTTCAATGGTATCATGGCATTGATCTACTTGTGCGTGGAAGACATCTTCCA GCTCATTAACTACAGCTTCAGCTACTGGTTCTTTGTGGGGCTTTCTATTGTGGGTCAGCTTTATCTGCGCTG GAAGGAGCCTGATCGACCTCGTCCCCTCAAGCTCAGCGTTTTCTTCCCGATTGTCTTCTGCCTCTGCACCATCTT CCTGGTGGCTGTTCCACTTTACAGTGATACTATCAACTCCCTCATCGGCATTGCCATTGCCCTCTCAGGCCTGCC CTTTTACTTCCTCATCATCAGAGGGCCAGAACATAAGCGACCGCTTTACCTCCGAAGGATCGTGGGGTCTGCCAC AAGGTACCTCCAGGTCCTGTGTATGTCAGTTGCTGCAGAAATGGATTTGGAAGATGGAGGAGAGATGCCCAAGCA ACGGGATCCCAAATCTAACTAAACACCATCTGGAATCCTGATGTGGAAAGCAGGGGTTTCTGGTCTACTGGCTAG AGCTAAGGAAGTTGAAAAGGAAAGCTCACTTCTTTGGAGGCACCTGTCCAGAAGCCTGGCCTAGGCAGCTTCAAC CTTTGAACTTACTTTTTGAAATGAAAAGTAATTTATTTGTTTTGCTACATACTGTTCCAGACTTTTAAAGGGGAC  ${\tt AATGAAGGTGACTGTGGGGAGGAGCATGTCAGGTTTGGGCTTGGTTGTTTTAGAAGCACCTGGGTGTGCCTACCT}$ ACTCCTCTTTTCTTTTAAAAGGGCCCACAATGCTCCAATTTCCTGTCTCCTTTAGAGAGACATGAAACTATCACA GGTGCTGGATGACAATAAAAGTTTATGTTCCT

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**ATG**GTAACGTGGCTTTACAGATTTTTACCCACTTCAAATATGGCCGCCAAGCTCCGTTCTCTTTTACCGCCTGAT GGCGCAAAAGCAAGTCCTCTTCCGGGCAAAATGGCGATGGGACTAATGTGCGGACGCCGGGAGCTTCTGCGCTTG  $\verb|CTACAGTCCGGGCGTCGCACAGCGTCGCAGGGCCCTCGCAATGGCTTGGGAAACCGCTGACCACACGGCTC|\\$ CTATTCCCAGTAGCCCCGTGCTGCTGCCCCACACTACCTCTTCCTTGCGGCTTCCGGCCCCCGCAGCCTCAGT ACCTCTGCTATCTCTTTTGCAGAAGTCCAGGTTCAGGCCCCTCCTGTTGTTGCTGCAACTCCCTCACCCACAGCA GTACCTGAGGTGGCTTCTGGAGAGACTGCAGATGTAGTCCAAACTGCTGCAGAGCAGAGCTTCGCTGAACTGGGG  $\verb|CTGGGGTCATACACCCCAGTGGGACTGATCCAGAATTTACTGGAATTTATGCATGTTGATCTGGGCCTACCTTGG|$ TGGGGGGCCATTGCTGCATGTACAGTCTTTGCCCGCTGCCTGATTTTTCCTCTCATCGTGACGGGCCAGCGAGAG GCAGCCAGGATCCACAATCACTTGCCAGAGATCCAGAAGTTTTCCAGTCGAATCAGAGAGGCCAAGTTAGCAGGA GACCATATTGAGTATTACAAGGCTTCCTCGGAGATGGCACTTTACCAGAAAAAACATGGTATTAAACTCTATAAA CCTGTGCCCAGCCTGCAGACAGGTGGCCTCTGGTGGTTCCAGGATCTCACGGTATCCGATCCCATCTACATATTA  $\verb|CCACTGGCAGTCACTGCTACAATGTGGGCTGTTCTTGAGCTAGGTGCTGAGACAGGTGTGCAAAGTTCTGACCTT|\\$ CAGTGGATGAGAAATGTCATCAGAATGATGCCCCTGATAACCTTGCCCATAACCATGCATTTCCCCACGGCAGTG TTTATGTACTGGCTCTCCTCCAATTTGTTTTCCCTGGTCCAAGTATCCTGTCTCCGGATTCCAGCAGTACGCACT GTACTTAAAATCCCCCAGCGTGTTGTACATGACCTGGACAAATTACCTCCACGGGAAGGCTTCCTAGAGAGCTTC AAAAAAGGCTGGAAAAATGCTGAAATGACGCGTCAGCTGCGAGAGCGTGAACAACGCATGCGGAATCAGTTGGAG CTAGCAGCCAGGGGTCCTTTACGACAGACCTTTACCCACAACCCTCTCCTACAACCTGGAAAGGATAACCCTCCC  ${\tt AATATCCCTAGCAGCAGCAAACCAAAGTCAAAGTATCCCTGGCACGACACACTTGGC} \underline{{\tt TGA}}$ 

MVTWLYRFLPTSNMAAKLRSLLPPDLRLQFWLHARLQKCFLSRGCGSYCAGAKASPLPGKMAMGLMCGRRELLRL LQSGRRVHSVAGPSQWLGKPLTTRLLFPVAPCCCRPHYLFLAASGPRSLSTSAISFAEVQVQAPPVVAATPSPTA VPEVASGETADVVQTAAEQSFAELGLGSYTPVGLIQNLLEFMHVDLGLPWWGAIAACTVFARCLIFPLIVTGQRE AARIHNHLPEIQKFSSRIREAKLAGDHIEYYKASSEMALYQKKHGIKLYKPLILPVTQAPIFISFFIALREMANL PVPSLQTGGLWWFQDLTVSDPIYILPLAVTATMWAVLELGAETGVQSSDLQWMRNVIRMMPLITLPITMHFPTAV FMYWLSSNLFSLVQVSCLRIPAVRTVLKIPQRVVHDLDKLPPREGFLESFKKGWKNAEMTRQLREREQRMRNQLE LAARGPLRQTFTHNPLLQPGKDNPPNIPSSSSKPKSKYPWHDTLG

 ${\tt CCAGAATAAGATCTGGACGGTGACTGTGAGCCCCGAGCAAAACGACCGCACCCCTTGGTGATGGTGCATGGTTT}$ TGGGGGCGGCGTGGGTCTCTGGATCCTCAACATGGACTCACTGAGTGCCCGCCGCACACTGCACACCTTCGATCT GCTTGGCTTCGGGCGAAGCTCAAGGCCAGCATTCCCAAGGGACCCGGAGGGGCTGAGGATGAGTTTGTGACATC GATAGAGACATGGCGGAGACCATGGGGATCCCCAGCATGATCCTCCTGGGGCACAGTTTGGGAGGATTCCTGGC CACTTCTTACTCAATCAAGTACCCTGATAGAGTTAAACACCTCATCCTGGTGGACCCATGGGGCTTTCCCCTCCG ACCAACTAACCCCAGTGAGATCCGTGCACCCCCAGCCTGGGTCAAAGCCGTGGCATCTGTCCTAGGACGTTCCAA CAAGTTTGCAGACTTCTTTGAAGATGATACCATATCAGAGTATATTTACCACTGCAACGCACAGAATCCCAGTGG TGAGACAGCATTCAAAGCCATGATGGAGTCCTTTGGCTGGGCCCGGCGCCCTATGCTGGAGCGAATTCACTTGAT GATGCAGCGGCCGGATTCCTATGTCCGAGACATGGAGATTAAGGGTGCCTCCCACCATGTCTATGCTGACCAGCC AAGCCAGAGAGTCACTCTTACCTCCCTGTCTGCTTACTCACCCACTCTGTCCTTTCCTCACCAACTAACATGTGC CAGCCAGGCAGAGTCTTGTGCTGTTCCCAGAACAGGACGACAGTGAAAAGAACACTCTTGACCCTACACTGAAGG CTGAAGGCAGAAGCCACAAGAGGCCTTGAGTGCCACCCCCAGGGAAGAACATAAAGGGTTGCACAATGCCACCCA TCCACTCCTTGCCAAGTGTTACCCAGATGGTGGAGGATGTGAAGGGATTGCACCAAGCCACATTCACTCTCTG TGGCCTTTCTTCCTCTGGGCAAAGAAGGGCTTCCAGTGGCCTTTCCTCACTCTGTAGTGTTTTGTGGGGATAGGTT CTGCCAAGAGCAGGTCCTGGAGTTCCCTTCACCTGCAGAGTCCTTTTCATGACCTAGGAGGTCTTATTCAAAGCC CTCATTGACAGAGGAGAAACAGGCCAAGGCAGGACATGGCTGGACCATGGTGATACAGCTCTGTGTGATTCAAG TTCTGGCAGAGCTTGTAAGGCTAGAGCCCAGGTCTGCCGACACCCTGTGCTTGTTGCACACTTGATTTGCTAAGG CTGGAGACAGGCACCATTGCCATGGGGCTGGTCCTAGTCACTGGCCGAGGATAAGCCCGTCCCTGTCCCACATTC TAGCCCCACTATGCGGGGGTGCTGTTGTCCTGCCTGTGTCTCATCCCCAGCTGCCTAAGCTAGGGACACTCAAGT GCTTCCTTCCCCATCTTCCTCCCAACTGGAGGCCTCTGAGCCTCCCCTGTGCCTTGGGCCCTGAAGCCCC ATATGTAGTATAGAGCAAAGGTGGCTCCTGGTGAAGAGGGGGGGAAAGGCCCTTCAGCCCCAGGGCCATGTCTG GGTTCTCCATGCCCATCAGTCTCTGCAGTTTCTCTACCTGCCCCCAGAGCTGAGGCCCATCTGCAAGCCCCTGCCC ATGGCCCAATGGGGAGCCTCCAGCCACAAGTTCCCTGTCCTTATCAGCCACTGGGTGGTTCCCACTGCATGACCC TCTATCCCTGCCATCTGTCCCCATGGTTTCCAGCTCAATCCACCCCTGACCCATCTGTCAGCTTTTTCCCAGGGA TGTAAAACCATCCCCTTCACCAGAATGGTATTAACTCCTGGTGCTTTGTACTACTGGTCCAGCTGCCTTGGGCTC CTTTTCTATATTAATAAAGAAACGAGTAAAAATT

 ${\tt MSASVVSVISRFLEEYLSSTPQRLKLLDAYLLYILLTGALQFGYCLLVGTFPFNSFLSGFISCVGSFILAVCLRI} \\ {\tt QINPQNKADFQGISPERAFADFLFASTILHLVVMNFVG}$ 

TCTCCTCCTCATCCATCTCTCTCTCTTCTGGGCAGGAGTCATGTCAGCCATTGAGTTGGTGCCTGAACACCCAAA CAGTGCCTGTGTCAATAGGGGTCCCTGCCACCCTCAGGTGCTCCATGAAAGGAGAAGCGATCGGTAACTACTATA TCAACTGGTACAGGAAGACCCAAGATATCCAGAACCCTGACCCTGCCGTGTACCAGCTGAGAGACCTCTAAATCCA ATATCACAGACAAAACTGTGCTAGACATGAGGTCTATGGACTTCAAGAGCAACAGTGCTGTGGCCTGGAGCAACA AATCTGACTTTGCATGTGCAAACGCCTTCAACAACAGCATTATTCCAGAAGACACCTTCTTCCCCAGCCCAGAAA GTTCCTGTGATGTCAAGCTGGTCGAGAAAAGCTTTGAAACAGATACGAACCTAAACTTTCAAAACCTGTCAGTGA TTGGGTTCCGAATCCTCCTGAAAGTGGCCGGGTTTAATCTGCTCATGACGCTGCGGCTGTGGTCCAGCTGAG GAGGGAACTCTCCTACCCCCAAGGAGGTGAAAGCTGCTACCACCTCTGTGCCCCCCGGCAATGCACCAACTGGA TCCTACCCGAATTTATGATTAAGATTGCTGAAGAGCTGCCAAACACTGCTGCCACCCCTCTGTTCCCTTATTGC TCCCCAGAGACTGCCTCCGCCATCCCACAGATGATGGATCTTCAGTGGGTTCTCTTGGGCTCTAGGTCCCGGAGA GGGAAATTATCTCATTATCGAGGCCCTGCTATGCTGTGTGTCTGGGCGTGTTGTATGTCCTGCTGCCGATGCCTT CATTAAAATGATTTGGAAGAGC

GAGAATTGGCTATATCCTGGAGCGAGTGCTGGGAGGTGCTAGTCCGCCGCGCCTTATTCGAGAGGTGTCAGGGCT GGGAGACTAGGATGTCGGACACGTGGAGCTCTATCCAGGCCCACAAGAAGCAGCTGGACTCTCTGCGGGAGAGGC GTAGTGACAGCCCAGTGCCTACTGCACCCACCTCTGGTGGCCCTAAGCCCAGCACAGCTTCAGCAGTTCCTGAAT TAGCTACAGATCCTGAGTTAGAGAAGAAGTTGCTACACCACCTCTCTGATCTGGCCTTAACATTGCCCACTGATG CTGTGTCCATCTGTCTTGCCATCTCCACGCCAGATGCTCCTGCCACTCAAGATGGGGTAGAAAGCCTCCTGCAGA AGTTTGCAGCTCAGGAGTTGATTGAGGTAAAGCGAGGTCTCCTACAAGATGATGCACATCCTACTCTTGTAACCT ATGCTGACCATTCCAAGCTCTCTGCCATGATGGGTGCTGTGGCAGAAAAGAAGGGCCCTGGGGAGGTAGCAGGGA CTGTCACAGGGCAGAAGCGGCGTGCAGAACAGGACTCGACTACAGTAGCTGCCTTTGCCAGTTCGTTAGTCTCTG TAGAGCTATTAAATACTACAACAGCCAAGGAACAATCCATTGTTGAAAAATTTCGCTCTCGAGGTCGGGCCCAAG TGCAAGAATTCTGTGACTATGGAACCAAGGAGGAGTGCATGAAAGCCAGTGATGCTGATCGACCCTGTCGCAAGC TGCACTTCAGACGAATTATCAATAAACACACTGATGAGTCTTTAGGTGACTGCTCTTTCCTTAATACATGTTTCC ACATGGATACCTGCAAGTATGTTCACTATGAAATTGATGCTTGCATGGATTCTGAGGCCCCTGGCAGCAAAGACC ACACGCCAAGCCAGGAGCTTGCTCTTACACAGAGTGTCGGAGGTGATTCCAGTGCAGACCGACTCTTCCCACCTC AGTGGATCTGTTGTGATATCCGCTACCTGGACGTCAGTATCTTGGGCAAGTTTGCAGTTGTGATGGCTGACCCAC CCTGGGATATTCACATGGAACTGCCCTATGGGACCCTGACAGATGATGAGATGCGCAGGCTCAACATACCCGTAC GGGGGTATGAACGGGTAGATGAAATTATTTGGGTGAAGACAAATCAACTGCAACGCATCATTCGGACAGGCCGTA GTCTGGATTGTGATCTGACCTGAGCTTCGTTCCACCAGTCATAAACCAGATGAAATCTATGGCATGATTG AAAGACTATCTCCTGGCACTCGCAAGATTGAGTTATTTGGACGACCACAATGTGCAACCCAACTGGATCACCC TTGGAAACCAACTGGATGGGATCCACCTACTAGACCCAGATGTGGTTGCACGGTTCAAGCAAAGGTACCCAGATG GTATCATCTCTAAACCTAAGAATTTA<u>TAG</u>AAGCACTTCCTTACAGAGCTAAGAATCCATAGCCATGGCTCTGTAA AAAAAAAA

MSDTWSSIQAHKKQLDSLRERLQRRRKQDSGHLDLRNPEAALSPTFRSDSPVPTAPTSGGPKPSTASAVPELATD PELEKKLLHHLSDLALTLPTDAVSICLAISTPDAPATQDGVESLLQKFAAQELIEVKRGLLQDDAHPTLVTYADH SKLSAMMGAVAEKKGPGEVAGTVTGQKRRAEQDSTTVAAFASSLVSGLNSSASEPAKEPAKKSRKHAASDVDLEI ESLLNQQSTKEQQSKKVSQEILELLNTTTAKEQSIVEKFRSRGRAQVQEFCDYGTKEECMKASDADRPCRKLHFR RIINKHTDESLGDCSFLNTCFHMDTCKYVHYEIDACMDSEAPGSKDHTPSQELALTQSVGGDSSADRLFPPQWIC CDIRYLDVSILGKFAVVMADPPWDIHMELPYGTLTDDEMRRLNIPVLQDDGFLFLWVTGRAMELGRECLNLWGYE RVDEIIWVKTNQLQRIIRTGRTGHWLNHGKEHCLVGVKGNPQGFNQGLDCDVIVAEVRSTSHKPDEIYGMIERLS PGTRKIELFGRPHNVQPNWITLGNQLDGIHLLDPDVVARFKQRYPDGIISKPKNL

# FIGURE 3990

TTTTGTGAAGAGACGAAGACTGAGCGGTTGTGGCCGCGTTGCCGACCTCCAGCAGCAGTCGGCTTCTCTACGCAG CATTTTCGGCTTTGTGAGAAACCTTACCATCAAACACGATGGCCAGCAACGTTACCAACAAGACAGATCCTCGCT CCATGAACTCCCGTGTATTCATTGGGAATCTCAACACTCTTGTGGTCAAGAAATCTGATGTGGAGGCAATCTTTT CGAAGTATGGCAAAATTGTGGGCTGCTCTGTTCATAAGGGCTTTGCCTTCGTTCAGTATGTTAATGAGAAAATG  ${\tt CCCGGGCTGCTGTAGCAGGAGGATGGCAGAATGATTGCTGGCCAGGTTTTAGATATTAACCTGGCTGCAGAGC}$ CAAAAGTGAACCGAGGAAAAGCAGGTGTGAAACGATCTGCAGCGGAGATGTACGGGTCAGTAACAGAACACCCTT  $\verb|CTCCGTCCCTCTACTCAGCTCCTCTTTTGACTTGGACTATGACTTTCAACGGGACTATTATGATAGGATGTACA|\\$ GTTACCCAGCACGTGTACCTCCTCCTCCTCCTATTGCTCGGGCTGTAGTGCCCTCGAAACGTCAGCGTGTATCAG GAAACACTTCACGAAGGGGCAAAAGTGGCTTCAATTCTAAGAGTGGACAGCGGGGATCTTCCAAGTCTGGAAATG AAAGGAGATGACCTTCAGGCCATTAAGAAGGAGCTGACCCAGATAAAACAAAAAGTGGATTCTCCTCGGAAAAC CTGGAAAAATTGAAAAGGAACAGAGCAAACAAGCAGTAGAGATGAAGAATGATAAGTCAGAAGAGGAGCAGAGC AGCAGCTCCGTGAAGAAGATGAGACTAATGTGAAGATGGAGTCTGAGGGGGGTGCAGATGACTCTGCTGAGGAG GGGGACCTACTGGATGATGATGATGAAGATCGGGGGGATGACCAGCTGGAGTTGATCAAGGATGAAAAA GAGGCTGAGGAAGGAGGATGACAGAGACAGCGCCAATGGCGAGGATGACTCTTAAGCACATAGTGGGGTTTAG AAATCTTATCCCATTATTTCTTTACCTAGGCGCTTGTCTAAGATCAAATTTTTCACCAGATCCTCTCCCCTAGTA TCTTCAGCACATGCTCACTGTTCTCCCCATCCTTGTCCTTCCCATGTTCATTAATTCATATTGCCCCGCGCCCTAG TCCCATTTCACTTCCTTTGACGCTCCTAGTAGTTTTGTTAAGTCTTACCCTGTAATTTTTGCTTTTAATTTTGA TACCTCTTTATGACTTAACAATAAAAAGGATGTATGGTTTTTATCAACTGTCTCCAAAATAATCTCTTGTTATGC  ${\tt AGGGAGTACAGTTCTTTCATTCATACATAAGTTCAGTAGTTGCTTCCCTAACTGCAAAGGCAATCTCATTTAGT}$ TGAGTAGCTCTTGAAAGCAGCTTTGAGTTAGAAGTATGTGTGTTACACCCTCACATTAGTGTGCTGTGGGGGCA GTTCAACACAAATGTAACAATGTATTTTTGTGAATGAGAGTTGGCATGTCAAATGCATCCTCTAGAAAAATAATT AGTGTTATAGTCTTAAGATTTGTTTTCTAAAGTTGATACTGTGGGTTATTTTTGTGAACAGCCTGATGTTTGGGA CCTTTTTTCCTCAAAATAAACAAGTCCTTATTAAACCAGGAATTTGGAG

CGGCCCCCGCATTCCCCGCCCCACCTCCCCGCCTTGTTGTCCAACTTCTCCCGGAGCAGCCGGAGAGCAGGCG TCGGGACGCAGCAAAGAGAGGAGGCCACCATGGCGGAGCTGCAGGAGGTGCAGATCACAGAGGAGAAGCCACT GTTGCCAGGACAGACGCCTGAGGCGGCCAAGGAGGCTGAGTTAGCTGCCCGAATCCTCCTGGACCAGGGACAGAC TCACTCTGTGGAGACACCATACGGCTCTGTCACTTTCACTGTCTATGGCACCCCCAAACCCCAAACGCCCAGCGAT CCTTACCTACCACGATGTGGGACTCAACTATAAATCTTGCTTCCAGCCACTGTTTCAGTTCGAGGACATGCAGGA AATCATTCAGAACTTTGTGCGGGTTCATGTGGATGCCCCTGGAATGGAAGAGGGAGCCCCTGTGTTCCCTTTGGG ATATCAGTACCCATCTCTGGACCAGCTTGCAGACATGATCCCTTGCGTCCTGCAGTACCTAAATTTCTCTACAAT AATTGGAGTTGGTGTTGGAGCTGGAGCCTACATCCTGGCGAGATATGCTCTTAACCACCCGGACACTGTTGAAGG CTCTTCCATTCCGGAGATGATCCTTGGACATCTTTTCAGCCAGGAAGAGCTCTCTGGAAATTCTGAGTTGATACA AAAGTACAGAAATATCATTACACATGCACCCAACCTGGATAACATTGAATTGTACTGGAACAGCTACAACAACCG  ${\tt CCGAGACCTGAACTTTGAGCGTGGAGGTGATATCACCCTCAGGTGTCCTGTGATGCTGGTGGTAGGAGACCAAGC}$ CTCCGGAGGTCAGCCCAGCTGACTCAGCCAGGCAAGCTGACCGAGGCCTTCAAGTACTTCCTGCAAGGCATGGG CTACATGGCCTCATCCTGCATGACTCGCCTGTCCCGGTCTCGTACAGCCTCTCTGACCAGTGCAGCATCCGTTGA CACCATGGAGGTCTCCTGTTGAATGGCCCTTGTTGCCCTAGAGTGGGACCCAGCCCTCACCTCCCCCAGAGCTAA CCTGGGAGGTGCTGAAGGGCATTGGGCCACCGTAAGCAAGGGAAAAAGGGCAGATCATGCGGGGAGATGACCTT GATCTTTGATTGCTACCCTAACCTTGACCTTTAACCCGTGATTCCCCCCAGCTCCTGGAAGAGATGTCCTAATAT CTCTTAGGGACCCAGACCCCTAAATTCTCCTCCTCCCCCATTTTGATGTTAAGGTGGAGAGGGCATATGCATCCT CTGTCCTGATCTAGGTGTCTATAGCTGAGGGGTAAGAGGTTGTTGTAGTTGTCCTGGTGCCTCCATCAGACTCTC CCTACTTGTCCCATATTTGCAAGGGGGGGGTTTTGGGGGCTGGGGCTCCATTCACCAAAGCTGAGGTGGCTTCTC ATTAACCCTTTAGGACTCTGAAGGGTATGGACCTACGTGAATGTGTCTCAGGGGGAGACTTGCTGGTGGGTTAGT GGTCCTCAGGATGTGATAGAAACATCCAGTGTAAAAAGGAAGTTGGAATGGGAGTTGGCGGGCAGTGAACGAGTG TGGGGAAGGATTGGTGCTGGGGCAACAGGAAGGGGCCCTGGGGCCGTTTGGCTGCACTAACTTTGGTAGCTCAGTG CTACCCTGGGGCTCTGACCACACTGTAGTATGTGTGGAGGGTGCCCTCCCGTCTCCCACAACTTCTGCTATAACA ATAAACTGTAGAGGAATCTGAGTACCGTT

 ${\tt MVPKLFTSQICLLLLGLLAVEGSLHVKPPQFTWAQWFETQHINMTSQQCTNAMQVINNYQRRCKNQNTFLLTTF} \\ {\tt ANVVNVCGNPNMTCPSNKTRKNCHHSGSQVPLIHCNLTTPSPQNISNCRYAQTPANMFYIVACDNRDQRRDPPQYPVPVHLDRII}$ 

 ${\tt AGAGACTTGGGTTTTGCTCCCTAGGAGCCCTGGAATAGCTTTGGCCAGAATTCCCTATCTCCCATTAGAACCTCT}$  $\verb|CCTTTGCGTCCTTTGTTAACCTCCAAGTCTACTTGGTGAAAACGCCCACGAAGAAGTAACAAGGACTTTGTTCCT|\\$  ${\tt TCACATAGGAAGAAGACTAACGTAGGCAAAGATTTGCTCTTTCTCAGCAGCCCTAGAAAGACGGCGGCCTGGG}$ TGATTCACCACTCCTTCCTCACGTCCTTGATTTTATTTGAACTGAGCTCCAGATGCTCCTCCCACCCTTTTCCTC TTGGAAGCCAAACCCCTTTGTAATCTGTATAAGGTCCACACCCCGGGAGCTGAGTGATTGCAGAAACTGGCCTTC CTTGTCCGGCTCCTTCTGCTTGTCCTGATACTGCTGGTGCTGGGCTGGGTCCAGCCTTCCCTGGGCAAGGAATCC  $\tt CGGGCCAAGAAATTCCAGCGGCAGCATATGGACTCAGACAGTTCCCCCAGCAGCAGCTCCACCTACTGTAACCAA$ ATGATGAGGCGCCGGAATATGACACAGGGGCGGTGCAAACCAGTGAACACCTTTGTGCACGAGCCCCTGGTAGAT  ${\tt GTCCAGAATGTCTGTTTCCAGGAAAAGGTCACCTGCAAGAACGGGCAGGGCAACTGCTACAAGAGCAACTCCAGC}$ ATGCACATCACAGACTGCCGCCTGACAAACGGCTCCAGGTACCCCAACTGTGCATACCGGACCAGCCCGAAGGAG AGACACATCATTGTGGCCTGTGAAGGGAGCCCATATGTGCCAGTCCACTTTGATGCTTCTGTGGAGGACTCTACC TAAGGTCAGAGCAGCGAGATACCCCACCTCCTCAACCTCATCCTCTCCACAGCTGCCTCTTCCCTCTCCTTCC 

MALEKSLVRLLLLVLILLVLGWVQPSLGKESRAKKFQRQHMDSDSSPSSSSTYCNQMMRRRNMTQGRCKPVNTFV HEPLVDVQNVCFQEKVTCKNGQGNCYKSNSSMHITDCRLTNGSRYPNCAYRTSPKERHIIVACEGSPYVPVHFDA SVEDST

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AACTGTGCGAACCAGACCCGGCAGCCTTGCTCAGTTCAGCATAGCGGAGCGGATCCGATCGGATCGGAGCGGATC GGAGCACACCGGAGCAGGCTCATCGAGAAGGCGTCTGCGAGACCATGGAGAACGGATACACCTATGAAGATTATA AGAACACTGCAGAATGGCTTCTGTCTCACACTAAGCACCGACCTCAAGTTGCAATAATCTGTGGTTCTGGATTAG GAGGTCTGACTGATAAATTAACTCAGGCCCAGATCTTTGACTACGGTGAAATCCCCAACTTTCCCCGAAGTACAG TGCCAGGTCATGCTGGCCGACTGGTGTTTGGGTTCCTGAATGGCAGGGCCTGTGTGATGATGCAGGGCAGGTTCC ACATGTATGAAGGGTACCCACTCTGGAAGGTGACATTCCCAGTGAGGGTTTTCCACCTTCTGGGTGTGGACACCC TGGTAGTCACCAATGCAGCAGGAGGGCTGAACCCCAAGTTTGAGGTTGGAGATATCATGCTGATCCGTGACCATA TCAACCTACCTGGTTTCAGTGGTCAGAACCCTCTCAGAGGGCCCAATGATGAAAGGTTTGGAGATCGTTTCCCTG CCATGTCTGATGCCTACGACCGGACTATGAGGCAGAGGGCTCTCAGTACCTGGAAACAAATGGGGGAGCAACGTG AGCTACAGGAAGGCACCTATGTGATGGTGGCAGGCCCCAGCTTTGAGACTGTGGCAGAATGTCGTGTGCTGCAGA AGCTGGGAGCAGACGCTGTTGGCATGAGTACAGTACCAGAAGTTATCGTTGCACGGCACTGTGGACTTCGAGTCT TTGGCTTCTCACTCACTAACAAGGTCATCATGGATTATGAAAGCCTGGAGAAGGCCAACCATGAAGAAGTCT TAGCAGCTGGCAAACAAGCTGCACAGAAATTGGAACAGTTTGTCTCCATTCTTATGGCCAGCATTCCACTCCCTG ACAAAGCCAGTTGACCTGCCTTGGAGTCGTCTGGCATCTCCCACACAAGACCCAAGTAGCTGCTACCTTCTTTGG CCCCTTGCTGGAGTCATGTGCCTCTGTCCTTAGGTTGTAGCAGAAAGGAAAAGATTCCTGTCCTTCACCTTTCCC ACTTTCTTCTACCAGACCCTTCTGGTGCCAGATCCTCTTCTCAAAGCTGGGATTACAGGTGTGAGCATAGTGAGA ACATCTGTGGAGATGCCCAGGATTTGACTCGGGCCTTAGAACTTTGCATAGCAGCTGCTACTAGCTCTTTGAGAT AATACATTCCGAGGGGCTCAGTTCTGCCTTATCTAAATCACCAGAGACCAAACAAGGACTAATCCAATACCTCTT GGA

CAGACAGACCAATCACGCGCATTCTTCGGCCACGACAAGCGCGCCTCTGATCACGTGACCAGGTCCGCTACCCAC GTGGGGGCTCAGCGTGCACCCTTCTTTGTGCTCGGGTTAGGAGGAGCTAGGCTGCCATCGGGCCGGTGCAGATAC GGGGTTGCTCTTTTGCTCATAAGAGGGGCTTCGCTGGCAGTCTGAACGGCAAGCTTGAGTCAGGACCCTTAATTA GGTACAGCTGCCCAAGGGCGTTCGTAACGGGAATGCCGAAGCGTGGGAAAAAGGGAGCGGTGGCGGAAGACGGGG ATGAGCTCAGGACAGAGCCAGAGGCCAAGAAGAGTAAGACGCCCGCAAAGAAAAATGACAAAGAGGCAGCAGGAG AGGGCCCAGCCCTGTATGAGGACCCCCCAGATCAGAAAACCTCACCAGTGGCAAACCTGCCACACTCAAGATCT ATATACTGTGCCTTCAAGAGACCAAATGTTCAGAGAACAAACTACCAGCTGAACTTCAGGAGCTGCCTGGACTCT  $\verb|CTCATCAATACTGGTCAGCTCCTTCGGACAAGGAAGGGTACAGTGGCGTGGGCCTGCTTTCCCGCCAGTGCCCAC| \\$ TCAAAGTTTCTTACGGCATAGGCGATGAGGAGGCATGATCAGGAAGGCCGGGTGATTGTGGCTGAATTTGACTCGT TTGTGCTGGTAACAGCATATGTACCTAATGCAGGCCGAGGTCTGGTACGACTGGAGTACCGGCAGCGCTGGGATG AAGCCTTTCGCAAGTTCCTGAAGGGCCTGGCTTCCCGAAAGCCCCTTGTGCTGTGGAGACCTCAATGTGGCAC ATGAAGAATTGACCTTCGCAACCCCAAGGGGAACAAAAAGAATGCTGGCTTCACGCCACAAGAGCGCCAAGGGCT TCGGGGAATTACTGCAGGCTGTGCCACTGGCTGACAGCTTTAGGCACCTCTACCCCAACACACCCCTATGCCTACA CTCTGTTACCTGCATTGTGTGACAGCAAGATCCGTTCCAAGGCCCTCGGCAGTGATCACTGTCCTATCACCCTAT  ${\tt ACCTAGCACTG} \underline{\textbf{TGA}} \\ {\tt CACCACCCCTAAATCACTTTGAGCCTGGGAAATAAGCCCCCTCAACTACCATTCCTTCTTT} \\$ AAACACTCTTCAGAGAAATCTGCATTCTATTTCTCATGTATAAAACTAGGAATCCTCCAACCAGGCTCCTGTGAT 

MPKRGKKGAVAEDGDELRTEPEAKKSKTAAKKNDKEAAGEGPALYEDPPDQKTSPSGKPATLKICSWNVDGLRAW IKKKGLDWVKEEAPDILCLQETKCSENKLPAELQELPGLSHQYWSAPSDKEGYSGVGLLSRQCPLKVSYGIGDEE HDQEGRVIVAEFDSFVLVTAYVPNAGRGLVRLEYRQRWDEAFRKFLKGLASRKPLVLCGDLNVAHEEIDLRNPKG NKKNAGFTPQERQGFGELLQAVPLADSFRHLYPNTPYAYTFWTYMMNARSKNVGWRLDYFLLSHSLLPALCDSKI RSKALGSDHCPITLYLAL

WO 2004/030615 PCT/US2003/028547

#### 4334/6881 FIGURE 3999

CAGACAGACCAATCACGCGCATTCTTCGGCCACGACAAGCGCGCCTCTGATCACGTGACCAGGTCCGCTACCCAC GTGGGGGCTCAGCGTGCACCCTTCTTTGTGCTCGGGTTAGGAGGAGCTAGGCTGCCATCGGGCCGGTGCAGATAC GGGGTTGCTCTTTTGCTCATAAGAGGGGCTTCGCTGGCAGTCTGAACGGCAACGCGGTAAAAATATTGCTTCGGT GGGTGACGCGGTACAGCTGCCCAAGGGCGTTCGTAACGGGA**ATG**CCGAAGCGTGGGAAAAAGGGAGCGGTGGCGG AAGACGGGGATGAGCTCAGGACAGAGCCAAGAGGCCAAGAAGATAAGACGCCCGCAAAGAAAAATGACAAAGAGG CAGCAGGAGAGGGCCCAGCCCTGTATGAGGACCCCCCAGATCAGAAAACCTCACCCAGTGGCAAACCTGCCACAC TCAAGATCTGCTCTTGGAATGTGGATGGGCTTCGAGCCTGGATTAAGAAGAAAGGATTAGATTGGGTAAAGGAAG AAGCCCCAGATATACTGTGCCTTCAAGAGACCAAATGTTCAGAGAACAAACTACCAGCTGAACTTCAGGAGCTGC AGTGCCCACTCAAAGTTTCTTACGGCATAGGCGATGAGGAGCATGATCAGGAAGGCCGGGTGATTGTGGCTGAAT TTGACTCGTTTGTGCTGGTAACAGCATATGTACCTAATGCAGGCCGAGGTCTGGTACGACTGGAGTACCGGCAGC GCTGGGATGAAGCCTTTCGCAAGTTCCTGAAGGGCCTGGCTTCCCGAAAGCCCCTTGTGCTGTGTGGAGACCTCA ATGTGGCACATGAAGAAATTGACCTTCGCAACCCCAAGGGGAACAAAAAGAATGCTGGCTTCACGCCACAAGAGC GCCAAGGCTTCGGGGAATTACTGCAGGCTGTGCCACTGGCTGACAGCTTTAGGCACCTCTACCCCAACACACCCCT TGTCCCACTCTGTTACCTGCATTGTGTGACAGCAAGATCCGTTCCAAGGCCCTCGGCAGTGATCACTGTCCTA TCACCCTATACCTAGCACTGTGACACCACCCCTAAATCACTTTGAGCCTGGGAAATAAGCCCCCTCAACTACCAT TCCTTCTTTAAACACTCTTCAGAGAAATCTGCATTCTATTTCTCATGTATAAAACTAGGAATCCTCCAACCAGGC Α

MPKRGKKGAVAEDGDELRTEPEAKKSKTAAKKNDKEAAGEGPALYEDPPDQKTSPSGKPATLKICSWNVDGLRAW IKKKGLDWVKEEAPDILCLQETKCSENKLPAELQELPGLSHQYWSAPSDKEGYSGVGLLSRQCPLKVSYGIGDEE HDQEGRVIVAEFDSFVLVTAYVPNAGRGLVRLEYRQRWDEAFRKFLKGLASRKPLVLCGDLNVAHEEIDLRNPKG NKKNAGFTPQERQGFGELLQAVPLADSFRHLYPNTPYAYTFWTYMMNARSKNVGWRLDYFLLSHSLLPALCDSKIRSKALGSDHCPITLYLAL

CAGACAGACCAATCACGCGCATTCTTCGGCCACGACAAGCGCGCCTCTGATCACGTGACCAGGTCCGCTACCCAC GTGGGGGCTCAGCGTGCACCCTTCTTTGTGCTCGGGTTAGGAGGAGCTAGGCTGCCATCGGGCCGGTGCAGATAC GGGGTTGCTCTTTTGCTCATAAGAGGGGCTTCGCTGGCAGTCTGAACGCCAAGCTTGAGCAACGCGGTAAAAATA GCGGTGGCGGAAGACGGGGATGAGCTCAGGACAGACGCCAAGAAGAAGAGTAAGACGGCCGCAAAGAAAAAAT GACAAAGAGGCAGCAGGAGAGGGCCCAGCCCTGTATGAGGACCCCCCAGATCAGAAAACCTCACCCAGTGGCAAA CCTGCCACACTCAAGATCTGCTCTTGGAATGTGGATGGGCTTCGAGCCTGGATTAAGAAGAAAGGATTAGATTGG GTAAAGGAAGAAGCCCCAGATATACTGTGCCTTCAAGAGACCAAATGTTCAGAGAACAAACTACCAGCTGAACTT CTTTCCCGCCAGTGCCCACTCAAAGTTTCTTACGGCATAGGCGATGAGGAGCATGATCAGGAAGGCCGGGTGATT GTGGCTGAATTTGACTCGTTTGTGCTGGTAACAGCATATGTACCTAATGCAGGCCGAGGTCTGGTACGACTGGAG TACCGGCAGCGCTGGGATGAAGCCTTTCGCAAGTTCCTGAAGGGCCTGGCTTCCCGAAAGCCCCTTGTGCTGTGT GGAGACCTCAATGTGGCACATGAAGAAATTGACCTTCGCAACCCCAAGGGGAACAAAAAGAATGCTGGCTTCACG  $\verb|CCACAAGAGCGCCAAGGCTTCGGGGGAATTACTGCAGGCTGTGCCACTGGCTGACAGCTTTAGGCACCTCTACCCC|$ TACTTTTTGTTGTCCCACTCTGTTACCTGCATTGTGTGACAGCAAGATCCGTTCCAAGGCCCTCGGCAGTGAT CAACTACCATTCCTTTAAACACTCTTCAGAGAAATCTGCATTCTATTTCTCATGTATAAAACTAGGAATCCT AAAAAAAAA

MPKRGKKGAVAEDGDELRTEPEAKKSKTAAKKNDKEAAGEGPALYEDPPDQKTSPSGKPATLKICSWNVDGLRAW IKKKGLDWVKEEAPDILCLQETKCSENKLPAELQELPGLSHQYWSAPSDKEGYSGVGLLSRQCPLKVSYGIGDEE HDQEGRVIVAEFDSFVLVTAYVPNAGRGLVRLEYRQRWDEAFRKFLKGLASRKPLVLCGDLNVAHEEIDLRNPKG NKKNAGFTPQERQGFGELLQAVPLADSFRHLYPNTPYAYTFWTYMMNARSKNVGWRLDYFLLSHSLLPALCDSKI RSKALGSDHCPITLYLAL

AGTGCTATCTGCAGGCTGGCCAGCTTCCTCTGCGCTCCGGAAAGCTGCGGCCCAGCGCGGACTAGTGAGGACCTC  $\texttt{CACAGCTCCTGACATTGCCAGGAGTCCTGTCGGCGTTTTCTCCCAGCCTCCGCC} \underline{\textbf{ATG}} \underline{\textbf{C}} \underline{\textbf{C}}$ GAAGGCAGCGCCAATAAGATTGGCGTGGGCGTGGTGCGGGATGGCAAGGTGCTGGCGAACCCGCGGCGGACTTAC GTCACGCCTCCTGGCACAGGATTCCTTCCAGGTGATACAGCCAGGCATCACCGAGCTGTTATCCTAGACCTGCTG CAGGAGGCACTAACAGAGTCTGGATTAACCTCCCAGGATATCGACTGCATTGCATACACCAAGGGCCCTGGCATG AACCACTGTATAGGCCACATTGAGATGGGCCGCCTCATCACTGGAGCCACCAGCCCAACCGTGTTGTATGTGAGT GGAGGAAATACGCAGGTGATTGCATACTCGGAACATCGTTACCGTATCTTTGGGGAAACCATCGATATTGCAGTG GGTAATTGTCTGGATCGTTTTGCTCGAGTGCTGAAGATTTCTAACGACCCAAGTCCAGGATACAACATTGAACAG ATGGCAAAGCGAGGCAAGAAGCTAGTTGAGCTGCCATACACTGTAAAGGGGATGGACGTCTCATTCTCAGGGATC CTCATTGTGGGAGGAGTGGGGTGTAATGTGAGGCTACAGGAGATGATGGCAACAATGTGCCAGGAACGTGGAGCC CGGGCTGGACACAGGACCCCACTCAGTGATTCTGGGGTTACACAGAGGTATCGGACAGATGAAGTAGAGGTGACC TGGAGGGAC<u>TAA</u>TAAGATCAACAGAATCAGAGTAGATAGTTCCTTAATCGGAACCCAAAGGACCCCGTGCCTCAA 

MPAVLGFEGSANKIGVGVVRDGKVLANPRRTYVTPPGTGFLPGDTARHHRAVILDLLQEALTESGLTSQDIDCIA
YTKGPGMGAPLVSVAVVARTVAQLWNKPLVGVNHCIGHIEMGRLITGATSPTVLYVSGGNTQVIAYSEHRYRIFG
ETIDIAVGNCLDRFARVLKISNDPSPGYNIEQMAKRGKKLVELPYTVKGMDVSFSGILSFIEDVAHRMLATGECT
PEDLCFSLQETVFAMLVEITERAMAHCGSQEALIVGGVGCNVRLQEMMATMCQERGARLFATDERFCIDNGAMIA
QAGWEMFRAGHRTPLSDSGVTQRYRTDEVEVTWRD

#### 4340/6881 FIGURE 4005A

GGAATCGGACGCCCAGGCATATACAAGCTGAGTTTCAGCCATGGAAAAACTCCATGGGCATGTGTCTGCCCATC CAGACATCCTCTCCTTGGAGAACCGGTGCCTGGCTATGCTCCCTGACTTACAGCCCTTGGAGAAACTACATCAGC ATGTATCTACCCACTCAGATATCCTCTCCTTGAAGAACCAGTGCCTAGCCACGCTTCCTGACCTGAAGACCATGG AAAAACCACATGGATATGTGTCTGCCCACCCAGACATCCTCTCCTTGGAGAACCAGTGCCTGGCCACACTTTCTG TGGCCACCCTCTCTAGTCTAAAGAGCACTGTGTCTGCCAGCCCCTTGTTCCAGAGTCTACAGATATCTCACATGA CGCAAGCTGATTTGTACCGTGTGAACAACAGCAATTGCCTGCTCTCTGAGCCTCCAAGTTGGAGGGCTCAGCATT TCTCTAAGGGACTAGACCTTCAACCTGCCCTATAGCCCTGAAATCCATCTCTGCCACAGAGACAGCTCAGGAAG CAACTTTGGGTCGTTGGTTTGATTCAGAAGAGAAGAAAGGGGCAGAGACCCAAATGCCTTCTTATAGTCTGAGCT TGGGAGAGGAGGAGGTGGAGGATCTGGCCGTGAAGCTCACCTCTGGAGACTCTGAATCTCATCCAGAGCCTA CTGACCATGTCCTTCAGGAAAAGAAGATGGCTCTACTGAGCTTGCTGTGCTCTACTCTGGTCTCAGAAGTAAACA TGAACAATACATCTGACCCCACCCTGGCTGCCATTTTTGAAATCTGTCGTGAACTTGCCCTCCTGGAGCCTGAGT TTATCCTCAAGGCATCTTTGTATGCCAGGCAGCAGCTGAACGTCCGGAATGTGGCCAATAACATCTTGGCCATTG TCCAGGTGGCTGAGCTTTACCAGAGCCTGGCTGAGGGAGATAAGATAAGCTGGTGCCCCTGCCCGCCTGTCTCCC GTACTGCCATGACGGACAAATTTGCCCAGTTTGACGAGTACCAGCTGGCTAAGTACAACCCTCGGAAGCACCGGG CCAAGAGACACCCCGCCGGCCACCCCGCTCTCCAGGGATGGAGCCTCCATTTTCTCACAGATGTTTTCCAAGGT ACATAGGGTTTCTCAGAGAAGAGCAGAGAAAGTTTGAGAAGGCCGGTGATACAGTGTCAGAGAAAAAAGAATCCTC CAAGGTTCACCCTGAAGAAGCTGGTTCAGCGACTGCACATCCACAAGCCTGCCCAGCACGTTCAAGCCCTGCTGG GTTACAGATACCCCTCCAACCTACAGCTCTTTTCTCGAAGTCGCCTTCCTGGGCCTTGGGATTCTAGCAGAGCTG GGAAGAGGATGAAGCTGTCTAGGCCAGAGACCTGGGAGCGGAGCTGAGCCTACGGGGGAACAAAGCGTCGGTCT GGGAGGAACTCATTGAAAATGGGAAGCTTCCCTTCATGGCCATGCTTCGGAACCTGTGCAACCTGCTGCGGGTTG GAATCAGTTCCCGCCACCATGAGCTCATTCTCCAGAGACTCCAGCATGCGAAGTCGGTGATCCACAGTCGGCAGT TTCCATTCAGATTTCTTAACGCCCATGATGCCATTGATGCCCTCGAGGCTCAACTCAGAAATCAAGCATTGCCCT TTCCTTCGAATATAACACTGATGAGGCGGATACTAACTAGAAATGAAAAGAACCGTCCCAGGCGGAGGTTTCTTT GCCACCTAAGCCGTCAGCAGCTTCGGATGGCAATGAGGATACCTGTGTTGTATGAGCAGCTCAAGAGGGAGAAGC TGAGAGTACACAAGGCCAGACAGTGGAAATATGATGGTGAGATGCTGAACAGGTACCGACAGGCCCTAGAGACAG  $\tt CTGTGAACCTCTCTGTGAAGCACAGCCTGCCCCTGCTGCCAGGCCGCACTGTCTTGGTCTATCTGACAGATGCTA$ ATGCAGACAGGCTCTGTCCAAAGAGCAACCCACAAGGGCCCCCGCTGAACTATGCACTGTTGATTGGGATGA TGATCACGAGGGCGGAGCAGGTGGACGTCGTGTGTGGAGGTGACACTCTGAAGACTGCAGTGCTTAAGGCAG TGAATACTTTTGGGAAATACCTGCTGTCTCTGGCCGGCCAAAGGGTTCCTGTGGACAGGGTCATCCTCCTTGGCC AAAGCATGGATGATGAATGATAAATGTGGCCAAACAGCTTTACTGGCAGCGTGTGAATTCCAAGTGCCTCTTTG TTGGTATCCTCCTAAGAAGGGTACAATACCTGTCAACAGATTTGAATCCCAATGATGTGACACTCTCAGGCTGTA CTGATGCGATACTGAAGTTCATTGCAGAGCATGGGGCCTCCCATCTTCTGGAACATGTGGGCCAAATGGACAAAA TATTCAAGATTCCACCCCCAGGAAAGACAGGGGTCCAGTCTCTCCGGCCACTGGAAGAGACACTCCAAGCC GGGAGCGGGACCTGCTGCTGAGGTCTGTGCTGCCAGCACTGCAGGCCCGAGCGGCCCCTCACCGTATCAGCCTTC ACGGAATCGACCTCCGCTGGGGCGTCACTGAGGAGGAGACCCGTAGGAACAGCAACTGGAAGTGTGCCTTGGGG AGGTGGAGAACGCACAGCTGTTTGTGGGGATTCTGGGCTCCCGTTATGGATACATTCCCCCAGCTACAACCTTC CTGACCATCCACACTTCCACTGGGCCCAGCAGTACCCTTCAGGGCGCTCTGTGACAGAGATGGAGGTGATGCAGT TCCTGAACCGGAACCAACGTCTGCAGCCCTCTGCCCAAGCTCTCATCTACTTCCGGGATTCCAGCTTCCTCAGCT CTGTGCCAGATGCCTGGAAATCTGACTTTGTTTCTGAGTCTGAAGAGGCCGCACGTCGGATCTCAGAACTGAAGA CCTATGTTGGCGGGCTGGAGGAGTTTGGGCAGTTGGTTCTGCAGGATGTATGGAATATGATCCAGAAGCTCTACC TGCAGCCTGGGGCCCTGCTGGAGCAGCCAGTGTCCCAGACGATGACTTGGTCCAGGCCACCTTCCAGCAGC TGCAGAAGCCACCGAGTCCTGCCCGGCCACGCCTTCTTCAGGACACAGTGCAACGGCTGATGCTGCCCCACGGAA GGCTGAGCCTGGTGACGGGCAGTCAGGACAGGGCAAGACAGCCTTCCTGGCATCTCTTGTGTCAGCCCTGCAGG

#### 4341/6881 FIGURE 4005B

TCACTCTGCTCAGACGCCTCTGTACCTATCTGCGTGGCCAACTAAAAGAGCCAGGTGCCCTCCCCAGCACCTACC GAAGCCTGGTGTGGGAGCTGCAGCAGAGGCTGCTGCCCAAGTCTGCTGAGTCCCTGCATCCTGGCCAGACCCAGG TCCTGATCATCGATGGGGCTGATAGGTTAGTGGACCAGAATGGGCAGCTGATTTCAGACTGGATCCCAAAGAAGC TTCCCCGGTGTGTACACCTGGTGCTGAGTGTCTAGTGATGCAGGCCTAGGGGAGACCCTTGAGCAGAGCCAGG GTGCCCACGTGCTGGCCTTGGGGCCTCTGGAGGCCTCTGCTCGGGCCCGGCTGGTGAGAGAGGAGCTGGCCCTGT ACGGGAAGCGGCTGGAGGAGTCACCATTTAACAACCAGATGCGACTGCTGCTGGTGAAGCGGGAATCAGGCCGGC CGCTCTACCTGCGCTTGGTCACCGATCACCTGAGGCTCTTCACGCTGTATGAGCAGGTGTCTGAGAGACTCCGGA CCCTGCCTGCCACTGTCCCCCTGCTGCAGCACATCCTGAGCACACTGGAGAAGGAGCACGGGCCTGATGTCC TTCCCCAGGCCTTGACTGCCCTAGAAGTCACACGGAGTGGTTTGACTGTGGACCAGCTGCACGGAGTGCTGAGTG TGTGGCGGACACTACCGAAGGGGACTAAGAGCTGGGAAGAAGCAGTGGCTGCTGGTAACAGTGGAGACCCCTACC CCATGGGCCCGTTTGCCTGCCTCGTCCAGAGTCTGCGCAGTTTGCTAGGGGAGGGCCCTCTGGAGCGCCCTGGTG CCCGGCTGTGCCTCCTGATGGGCCCCTGAGAACAGCAGCTAAACGTTGCTATGGGAAGAGGCCAGGGCTAGAGG ACACGGCACACCTCATTGCAGCTCAGCTCTGGAAGACATGTGACGCTGATGCCTCAGGCACCTTCCGAAGTT GCCCTCCTGAGGCTCTGGGAGACCTGCCTTACCACCTGCTCCAGAGCGGGAACCGTGGACTTCTTTCGAAGTTCC TTACCAACCTCCATGTGGTGCTGCACACTTGGAATTGGGTCTGGTCTCTCGGCTCTTTGGAGGCCCATGCCCTCT ATGCTTCTTCAGTCCCCAAAGAGGAACAAAAGCTCCCCGAGGCTGACGTTGCAGTGTTTCGCACCTTCCTGAGGC CCATGAAAAATCAGCAAAGCTCCAGCCTGTCTCTGGCAGTTTCCTCATCCCCTACTGCTGTGGCCTTCTCCACCA ATGGGCAAAGAGCAGCTGTGGGCACTGCCAATGGGACAGTTTACCTGTTGGACCTGAGAACTTGGCAGGAGGAGA  ${\tt TCGACGGGCTCCTGGGGCCTCGGGGCCTGCAGCATGGTTGTCGGGTGCTGCAGACTAAGGCTCACCAGTACCAAA}$ TCACTGGCTGCTGCCTGAGCCCAGACTGCCGGCTGCTAGCCACCGTGTGCTTGGGAGGATGCCTAAAGCTGTGGG ACACAGTCCGTGGGCAGCTGGCCTTCCAGCACACCTACCCCAAGTCCCTGAACTGTGTTGCCTTCCACCCAGAGG GGCAGGTAATAGCCACAGGCAGCTGGGCTGGCAGCATCAGCTTCTTCCAGGTGGATGGGCTCAAAGTCACCAAGG TGGACAGTATGGTGGACCTGTGGGCCTGCCGAGAAGGGGCACGGCTGCCTTCCCTGCCCACCATGGCTTTG TTGCTGCTGCGCTTTTCCTGCATGCGGGTTGCCAGTTACTGACGGCTGGAGAGGATGGCAAGGTTCAGGTGTGGT CAGATGGTGATCGGGTGGCTGTTGGATATCGAGCGGATGGCATTAGGATCTACAAAATCTCTTCAGGTTCCCAGG GGGCTCAGGGTCAGGCACTGGCAGTGTCCGCCCTGGCCTAGCCCCAAGGTATTGGTGAGTGGTG  ${\tt CAGAAGATGGGTCCTTGCAGGGCTGGGCACTCAAGGAATGCTCCCTTCAGTCCCTCTGGCTCCTGTCCAGATTCC}$ AGAAGCCTGTGCTAGGACTGGCCACTTCCCAGGAGCTCTTGGCTTCTGCCTCAGAGGATTTCACAGTGCAGCTGT GGCCAAGGCAGCTGCTGACGCGGCCACACAAGGCAGAAGACTTTCCCTGTGGCACTGAGCTGCGGGGACATGAGG GCCCTGTGAGCTGCTGTAGTTTCAGCACTGATGGAGGCAGCCTGGCCACCGGGGGCCGGGATCGGAGTCTCCTCT GCTGTGCCTGGACCAAAGATAACCTACTGATATCCTGCTCCAGTGATGGCTCTGTGGGGCTCTGGGACCCAGAGT CAGGACAGCGGCTTGGTCAGTTCCTGGGTCATCAGAGTGCTGTGAGCGCTGTGGCAGCTGTGGAGGAGCACGTGG TGTCTGTGAGCCGGGATGGGACCTTGAAAGTGTGGGACCATCAAGGCGTGGAGCTGACCAGCATCCCTGCTCACT CAGGACCCATTAGCCACTGTGCAGCTGCCATGGAGCCCCGTGCAGCTGGACAGCCTGGGTCAGAGCTTCTGGTGG TAACCGTCGGGCTAGATGGGGCCACACGGTTATGGCATCCACTCTTGGTGTGCCAAACCCACACCCTCCTGGGAC ACAGCGGCCCAGTCCGTGCTGCTGCTGTTTCAGAAACCTCAGGCCTCATGCTGACCGCCTCTGAGGATGGTTCTG TACGGCTCTGGCAGGTTCCTAAGGAAGCAGATGACACATGTATACCAAGGAGTTCTGCAGCCGTCACTGCTGTGG CTTGGGCACCAGATGGTTCCATGGCAGTATCTGGAAATCAAGCTGGGGAACTAATCTTGTGGCAGGAAGCTAAGG CTGTGGCCACAGCACAGGCTCCAGGCCACATTGGTGCTCTGATCTGGTCCTCGGCACACACCTTTTTTGTCCTCA GTGCTGATGAGAAAATCAGCGAGTGGCAAGTGAAACTGCGGAAGGGTTCGGCACCCGGAAATTTGAGTCTTCACC TGAACCGAATTCTACAGGAGGACTTAGGGGTGCTGACAAGTCTGGATTGGGCTCCTGATGGTCACTTTCTCATCT

## FIGURE 4005C

TGGCCAAAGCAGATTTGAAGTTACTTTGCATGAAGCCAGGGGATGCTCCATCTGAAATCTGGAGCAGCTATACAG AAAATCCTATGATATTGTCCACCCACAAGGAGTATGGCATATTTGTCCTGCAGCCCAAGGATCCTGGAGTTCTTT CTTTCTTGAGGCAAAAGGAATCAGGAGAGTTTGAAGAGAGGCTGAACTTTGATATAAACTTAGAGAATCCTAGTA GGACCCTAATATCGATAACTCAAGCCAAACCTGAATCTGAGTCCTCATTTTTGTGTGCCAGCTCTGATGGGATCC TATGGAACCTGGCCAAATGCAGCCCAGAAGGAGAATGGACCACAGGTAACATGTGGCAGAAAAAAGCAAACACTC CAGAAACCCAAACTCCAGGGACAGACCCATCTACCTGCAGGGAATCTGATGCCAGCATGGATAGTGATGCCAGCA TGGATAGTGAGCCAACACCACATCTAAAGACACGGCAGCGTAGAAAGATTCACTCGGGCTCTGTCACAGCCCTCC ATGTGCTACCTGAGTTGCTGGTGACAGCTTCGAAGGACAGAGATGTTAAGCTATGGGAGAGACCCAGTATGCAGC TGCTGGGCCTGTTCCGATGCGAAGGGTCAGTGAGCTGCCTGGAACCTTGGCTGGGCGCTAACTCCACCCTGCAGC TTGCCGTGGGAGACGTGCAGGGCAATGTGTACTTTCTGAATTGGGAATGAAGATGTGCCACTCGGGAATAATGAT ACCCCTTGTGCTAGAGATGCAAAGCCTGAAGACACTGGTAGCTTTTAATAATTATAAAATTAATAATTTCTTGAT ATATTCTATGTGTATGTATATGTACATTCTAATGTGTGTCTCTTCTTATTCAACATTAATCCTTACTAGAACCAC AAGAAAGTGAATGAAATCTTTAGTAGGTACTCTTTTGAAACTAGGTTTTAGAATTCTTGCATCACTCGCGGGCCC TAGGACCCTAGGATGCCATTCTTGCCAGGAGGAGGAATGAGAGTGATGTTGGCCAACATTCAATTTGAACAGAGC AGAGCTATGTTTCTGTCACAGAGACAGCCCTTTTCTCAGAACTACCCAGAGGAGGCCGGGCATGGTGGCTCACGC TTGTAATCCCAGCACTTTGGGAGGCCGAGGTGGGCAGATCACGAGGTCAGGAGATCAAGACCATCCTGGCTAACA TAGTGAAACCCTGTCTCTACTAAAAAAATACAAAAAGTTAGCCAGG

## FIGURE 4006

GGGGCTCCACTTTCTTTCCCTCTCCGTTTTGGTGGGCTGGTTGGAGATGAAATCCACTGAGGAGGGAAGTCCAGC ACCCTGTGTGCCAGTCCTGAACTGGCCCATCTGTAGACCCCCTGAAAATCATATGGGCTTGGATTTGGATATTCT CAACAGAAAGGGTTAAAGGCTGATGGTACCTAAAGCCTGGTACTTGAATTTTGATCAAGATAAGCTGCCTTAAGT TTCATGTGATGCCAGAGGAGTAAAATTTCAAGAGACTGAAACCAGATCTGAGTTTCGCTGTTCCAGTCTGGACCT CTTTGGAGCTGTAAATCCTGGATATACTGTAGATGAGTACTGCGTTTTTCTTTTATGGACTCTCTCAGCTTCTG GAGACCTCACTATCCTATTATGTCTTTGTGTGAAGACATGCTGCTTTGTAATTATCGAAAGTGTCGCATCAAACT CTCTGGCTATGCATGGGTCACTGCCTGCTCTCACATCTTCTGTGATCAGCATGGCAGTGGTGAGTTTAGTCGCTC ACCAGCTATCTGTCCTGCCTGCAACAGTACCCTTTCTGGAAAGCTAGATATTGTCCGCACAGAACTCAGTCCATC AGAGGAATATAAAGCTATGGTATTGGCAGGACTGCGACCAGAGATCGTGTTGGACATTAGCTCCCGAGCGCTGGC CTTCTGGACATATCAGGTACATCAGGAACGTCTCTATCAAGAATACAATTTCAGCAAGGCTGAGGGCCATCTGAA ACAGATGGAGAAGATATATACTCAGCAAATACAAAGCAAGGATGTAGAATTGACCTCTATGAAAGGGGAGGTTAC CTCCATGAAGAAGTACTAGAAGAATACAAGAAAAAGTTCAGTGACATCTCTGAGAAACTTATGGAGCGCAATCG TCAGTATCAAAAGCTCCAAGGCCTCTATGATAGCCTTAGGCTACGAAACATCACTATTGCTAACCATGAAGGCAC CCTTGAACCATCCATGATTGCACAGTCTGGTGTTCTTGGCTTCCCATTAGGTAACAACTCCAAGTTTCCTTTGGA TAATACACCTGTTCGAAATCGGGGCGATGGAGATGGAGATTTTCAGTTCAGACCATTTTTTGCGGGTTCTCCCAC AGCACCTGAACCCAGCAACAGCTTTTTTAGTTTTTGTCTCTCCAAGTCGTGAATTAGAGCAGCAGCAAGTTTCTAG CAGGGCCTTCAAAGTAAAAAGAATT<u>TGA</u>GCCACGCATAGTGTCACGCACCTGTGATCCCAGCTACTTAGGAGGTT GAGGCTGGGAGGATCACTTGAGCCCAGGAGTCTGAGGCTTTAGTGATCTAAGATCATGCCACTGCACTCCAGCCT AAC

 ${\tt MSLCEDMLLCNYRKCRIKLSGYAWVTACSHIFCDQHGSGEFSRSPAICPACNSTLSGKLDIVRTELSPSEEYKAM}$$VLAGLRPEIVLDISSRALAFWTYQVHQERLYQEYNFSKAEGHLKQMEKIYTQQIQSKDVELTSMKGEVTSMKKVLEYKKKFSDISEKLMERNRQYQKLQGLYDSLRLRNITIANHEGTLEPSMIAQSGVLGFPLGNNSKFPLDNTPVRNRGDGDGDFQFRPFFAGSPTAPEPSNSFFSFVSPSRELEQQQVSSRAFKVKRI$ 

 ${\tt GAGTGGCCGGGAG} \underline{\textbf{ATG}} \underline{\textbf{ATG}} \underline{\textbf{CTGATGAAGAGGAAGAAGTCAAGCCGATCTTGCAGAAATTGCAGGAACTCGTGGA}$ TCAGCTCTACTCATTTCGAGACTGCTATTTCGAGACACATAGTGTTGAGGATGCTGGGAGGAAGCAACAGGATGT GCAGAAGGAGATGGAGAAAACCCTACAGCAGATGGAAGAAGTAGTGGGTTCTGTCCAGGGCAAGGCACAAGTTCT AATGCTAACTGGGAAAGCACTAAATGTGACTCCTGACTATAGCCCTAAGGCTGAGGAGCTTCTGTCAAAGGCTGT  ${\tt GAAGCTGGAGCCCGAGCTGGAAGCCTGGAACCAGCTGGGTGAGGTGTACTGGAAAAAAGGGGATGTTGCAGC}$ TGCCCACACCTGCTTCTCAGGAGCCCTCACCCATTGCAGGAACAAGTCTCCTTGCAAAACCTGTCAATGGTGCT  ${\tt TCGTCAGCTGCGGACTGACACTGAAGATGAACATTCTCACCATGTCATGGACAGTGTCCGACAGGCTAAGTTGGC}$ TGTTCAGATGGATGTCCATGATGGCCGCTCCTGGTATATTCTTGGGAATTCATATCTTTCCCTTTACTTCTCTAC  $\cdot$ TGGCCAGAACCCTAAGATCTCCCAGCAAGCCCTCAGTGCCTATGCCCAAGCAGAAAAGTTGACAGAAAAGCTTC TAGCAATCCTGACCTTCATCTGAACAGGGCGACGTTGCATAAATATGAAGAGTTATGGGGAGGCCCTGGAGGG CTTCTCTCGGGCTGCAGCCCTGGACCCTGCCTGGCCAGAGCCCCGGCAACGAGAGCAACAACTTCTGGAATTCCT GGATAGATTAACCAGCCTCCTTGAGAGTAAGGGAAAGGTGAAGACCAAAAAGCTGCAGAGCATGCTGGGAAGCTT CAAGCCACTGAGTACGCTTCAGCCTGGGGTGAACAGCGGTGCCGTCATCCTGGGAAAGGTGGTATTTAGCCTCAC CACAGAGGAGAAAGTCCCCTTTACATTTGGCCTGGTAGATTCAGATGGACCTTGCTATGCAGTGATGGTGTACAA TATAGTGCAGAGCTGGGGAGTGCTCATTGGAGACTCTGTAGCCATTCCTGAGCCCAACCTGCGGCTTCACCGAAT TCAGCACAAAGGAAAGGACTATTCCTTTTCCAGTGTTCGAGTGGAGACGCCCCTCCTGCTAGTGGTGAATGGGAA GCCTCAGGGATCCAGCAGCCAGGCTGTTGCCACAGTGGCATCGCGACCACAGTGTGAA**TGA**CCTTTGACTTGCAT GCTCAACAGGGAGTGGAGGAGAGAGACAAGGCTCTGGACAGCCGGTCCAGCCACATCCAGTGATTCAGCAGGGA TCCTCATCATGTTCCAGCTCTCTACAGGGCCACATACTCTTCTGGCATATCTCTCCTGTCTCTTCCACTGCTCTC TATGTTTTAAGCAAAGAGCATGGAATTGGTAGAAGTCTTGGGATCTTGCCATGGGACAGAGTCCCCAAGGTTCCT CAGAATTAAATTTGTTTGG

# FIGURE 4009

MMADEEEEVKPILQKLQELVDQLYSFRDCYFETHSVEDAGRKQQDVQKEMEKTLQQMEEVVGSVQGKAQVLMLTG
KALNVTPDYSPKAEELLSKAVKLEPELVEAWNQLGEVYWKKGDVAAAHTCFSGALTHCRNKVSLQNLSMVLRQLR
TDTEDEHSHHVMDSVRQAKLAVQMDVHDGRSWYILGNSYLSLYFSTGQNPKISQQALSAYAQAEKVDRKASSNPD
LHLNRATLHKYEESYGEALEGFSRAAALDPAWPEPRQREQQLLEFLDRLTSLLESKGKVKTKKLQSMLGSLRPAH
LGPCSDGHYQSASGQKVTLELKPLSTLQPGVNSGAVILGKVVFSLTTEEKVPFTFGLVDSDGPCYAVMVYNIVQS
WGVLIGDSVAIPEPNLRLHRIQHKGKDYSFSSVRVETPLLLVVNGKPQGSSSQAVATVASRPQCE

## FIGURE 4010

GCTGCTCTCCTGATCATGGCTTCTCCGAGTTCTTTCACCTACTATTGCCCTCCATCTTCCTCCCCCGTCTGGTCA GAGCCGCTGTACAGTCTGAGGCCCGAGCACGCGCGAGAGCGGTTGCAGGACGACTCGGTGGAAACAGTCACGTCC ATAGAACAGGCAAAAGTAGAAGAAAGATCCAAGAGGTCTTCAGTTCTTACAAGTTCAACCACCTTGTACCAAGG CTTGTTTTGCAGAGGGAGAAGCACTTCCATTATCTGAAAAGAGGCCTTCGACAACTGACAGATGCCTATGAGTGT CTGGATGCCAGCCGCCCATGGCTCTGCTATTGGATCCTGCACAGCTTGGAACTGCTAGATGAACCCATCCCCCAG ATAGTGGCTACAGATGTGTCAGTTCCTGGAGCTGTGTCAGAGCCCAGAAGGTGGCTTTGGAGGAGGACCCGGT CAGTATCCACACCTTGCACCCACATATGCAGCAGTCAATGCATTGTGCATCATTGGCACCGAGGAGGCCTATGAC GGAGGTGAGGTGGATGTGAGAAGCGCATACTGTGCTGCCTCCGTAGCCTCGCTGACCAACATCATCACTCCAGAC CTCTTTGAGGGCACTGCTGAATGGATAGCAAGGTGTCAGAACTGGGAAGGTGGCATTGGCGGGGTACCAGGGATG GAAGCCCATGGTGGCTATACCTTCTGTGGCCTGGCCGCGCTGGTAATCCTCAAGAGGGAACGTTCCTTGAACTTG AAGAGCTTATTACAATGGGTGACAAGCCGGCAGATGCGATTTGAAGGAGGATTTCAGGGCCGCTGCAACAAGCTG GTGGATGGCTGCTACTCCTTCTGGCAGGCGGGGCTCCTGCCCCTGCTCCACCGCGCACTGCACGCCCAAGGTGAC CCTGCCCTTAGCATGAGCCACTGGATGTTCCATCAGCAGGCCCTGCAGGAGTACATCCTGATGTGCCAGTGC CCTGCGGGGGGGCTTCTGGATAAACCTGGCAAGTCGCGTGATTTCTACCACACCTGCTACTGCCTGAGCGGCCTG TCCATAGCCCAGCACTTCGGCAGCGGAGCCATGTTGCATGATGTGGTCCTGGGTGTGCCCGAAAACGCTCTGCAG CCCACTCACCCAGTGTACAACATTGGACCAGACAAGGTGATCCAGGCCACTACATACTTTCTACAGAAGCCAGTC  ${\tt CCAGGTTTTGAGGAGCTTAAGGATGAGACATCGGCAGAGCCTGCAACCGAC{\tt TAG}{\tt AGGACCTGGGTCCCGGCAGCT}}$ CAGTGGCTGGTTTTAAAAATTCTTTCCACACCTGTCAAACCAAAAATCTATCAGCCCACGTGGTGGGTTGGTGA TCTGAGTATTACGGCATCCAGAGCCACTGCTGACTCCCACTTGCACGCCACCATTCAGTCACCAGACTGGGTGCC CTCCGATGGGTGGAATAAGTCTGCTTCATGCCAAGGCTGGGCTTTGGGTCCCACCAAGATGAGTTCTCTGTAAGA CTGTGGTGGAGTTGCACCAGGAGGTGCCTCTGCCTCTCGACTTGCACCCTGGTCATTTGTAAGGGAAAAGAGCTG GAGGTGGGGAGAAAGATCTCCTTCAGTTGGGAGTCCTTCCACTTCAACACTGGAGAACTGAGCCTTGCATCTC TCCAGGGTCCAAGGCCACGCTTGGTGCACAGGCAAGACTTGCTTCAGCCCCAGGTGTGGTGACTTAGACCTAGGA AACCAATTATGAGTGGAAAGTGACCCTCTAGTTCAACTGTGCCAGAGGAAACAGCCCTCCAGTGCCCACCTGCCT CACTCCTCCCTATCATGTACCGTGAAAACCCCCTCTGATGGCCTCAAGGCAGTGCCTGCAGGCCGAGGCCCTTCT GGGGGTTTCTATCTTTCTCCACCAGACTCCAAGCCCACTCTCCTCCAAGACTGTGTTGTCTTTTCTCACCAAGA GTATTAACACTACTAAGTCTTTCACCTTAACTTATGACTCAGGATTTATTCACGTCCTGCCCACTCTAGGCTCAC AGGAATAAAATCAAGTGCTAGACACACTGGCTGCTACTAAGGCACTAGCCTCTGTAGCTGGTGGTGGCAGCGTGG TATCAAGTTGGGCCATCTGTCTACTGACCTGGCCTTCATGTAAGCAGCTGTGGGCTGCGGGCAGACAGGAGCTCA GAGATGCAGCATGAGGCGCTTAGAAAAACCTGGCCATTTGCTGCCTCTAATTCCCTTTTGCTTTGCCATATTGGG 

MASPSSFTYYCPPSSSPVWSEPLYSLRPEHARERLQDDSVETVTSIEQAKVEEKIQEVFSSYKFNHLVPRLVLQR
EKHFHYLKRGLRQLTDAYECLDASRPWLCYWILHSLELLDEPIPQIVATDVCQFLELCQSPEGGFGGGPGQYPHL
APTYAAVNALCIIGTEEAYDIINREKLLQYLYSLKQPDGSFLMHVGGEVDVRSAYCAASVASLTNIITPDLFEGT
AEWIARCQNWEGGIGGVPGMEAHGGYTFCGLAALVILKRERSLNLKSLLQWVTSRQMRFEGGFQGRCNKLVDGCY
SFWQAGLLPLHRALHAQGDPALSMSHWMFHQQALQEYILMCCQCPAGGLLDKPGKSRDFYHTCYCLSGLSIAQH
FGSGAMLHDVVLGVPENALQPTHPVYNIGPDKVIQATTYFLQKPVPGFEELKDETSAEPATD

#### 4351/6881 FIGURE 4014A

GCAGCAGGCCAAGTTCTTTCGGGACCGGCAGGAGCTGCTACAGCACTCGCTGCCCTTGGGCTCCTACCTGCTGAA GCCAGTCCAGCGCATCCTCAAGTACCACCTGCTGCTCCAGGAAATTGCCAAGCATTTTGATGAAGAAGAGGATGG CTTTGAGGTGGTGGAGGATGCCATTGACACCATGACCTGTGTGGCCTGGTACATCAACGACATGAAGAGGAGGCA TGAGCACGCGGTCCGGCTCCAGGAGATTCAGTCACTCCTCATCAACTGGAAGGGGCCCGACCTGACCACCTACGG GGAGCTTGTCCTGGAGGGCACATTCCGCGTGCATCGCGTGCGCAATGAAAGGACCTTTTTCCTCTTTGACAAAAC ACTGCTTATCACCAAGAAGCGGGGGGGTCACTTTGTCTACAAGGGCAACATCCCGGTAACCAGGCCCTGCCCCAT  $\tt CTCCTCTGCCATCTTCTCCCAAAGGATCTGGGCTCCCCTTCTTGTCTGCTTCTTGGGGCTCCAGCACCA$ CCCTTCTGAGATCACCCTCCCTGCTTCCCCAGGCTGTCAACCTTGTGCTTGACTGTCCTTTCCCTCTGCCCCTAG TGCTCCTCCTGATGCTGATCGAAAGCACCAGAGACTCCCTGTGCTTCACTGTCACCCACTACAAGCACAGCAAG CAGCAGTACAGCATCCAGGCCAAGACAGTGGAGGAGAAACGGAACTGGACTCACCACATCAAGAGGCTCATCCTA GAGAACCACCATGCCACCATTCCCCAGAAGGCCAAGGAAGCCATCTTGGAAATGGATTCCTATTATCCCAATCGG TACCGCTGCAGCCCAGAGCGGCTGAAGAAGGCTTGGTCCTCCCAGGATGAGGTGTCCACCAATGTGCGCCAGGGG CGCCGGCAATCTGAGCCAACCAAACACCTGCTCAGGCAACTCAACGAGAAAGGTGAGTGTGTGAGGTGGCCAGCC ATTGTCAGAATAGTGTAGAGGGAACTCTGCCTCCATTCCCCCCAGAAGAGGGCCTCGCCCCTGGCTGACGA GAGGGGCTGGAGCTCTCCCCCATGCACAGGCCTCATGCCCTTTCCTCCGGAAACAATGAGAGCCGAGCAACAGGC GAGGGTTCTGGGAGCAGGAGCCCCCAGTGAGGACTTCCCCAGGGAGCTGTCCAGAGGTCTTTTTCCTGCTTACTG ATCTCTTCCCCTCCCCTGCCCTCGCCCGTGTGCTGGGGGACCCGGTGGTGATGTCTGCAGCCCGAGCAG CAGGAATGAAGGGAAAGGGCCCAGGGAGTCTGAAAGCTCCAGGAGCAGAAGGCCCAGTGGCCGGTCTCCAA CCAGTACTGAGAAGCGCATGAGCTTCGAGTCCATTTCTTCCCTGCCAGAGGTTGAGCCGGACCCTGAGGCTGGGA GTGAGCAAGAGGTATTTTCTGCTGTGGAAGGGCCCAGTGCCGAGGAGACGCCTTCAGACACAGAATCTCCAGAAG TCCTGGAGACACAGCTTGATGCCCACCAGGGCCTTCTGGGGATGGACCCCCCAGGTGACATGGTGGACTTCGTGG CAGCTGAGAGCACTGAGGACCTTAAGGCCCTGAGCAGCGAGGAGGAAGAAAATGGGAGGTGCCGCCCAGGAGC GGCGGAGCAGCGTGGCACAGGAGGACAGCAAGTCCAGTGGCTTTGGGAGCCCGCGGCTGGTCAGCCGGAGCAGCA GCGTGCTCAGCCTGGAGGGCAGCGAGAAGGGCCTGGCCCGGCATGGCAGTGCCACAGACTCCCTCAGCTGTCAGC TCTCCCCAGAAGTGGACATCAGTGTGGGGGTGGCCACAGAGGACAGCCCTTCTGTCAATGGGATGGAGCCCCCAA GCCCAGGCTGCCCAGTGGAGCCTGACCGGTCTTCCTGCAAGAAGAAGGAATCAGCACTCTCCACCCGAGACCGGC TGTTGCTAGACAAGATTAAGAGCTATTATGAAAATGCAGAACACCATGATGCAGGCTTCAGCGTCCGCCGGG AGAGCCTCTCCTACATCCCCAAAGGACTGGTAAGAAACTCCATCTCCAGGTTCAACAGCCTTCCCCGGCCAGACC CAGAGCCAGTACCTCCAGTGGGGAGCAAGAGACAGGTGGGCTCCCGGCCGACTTCGTGGGCCCTGTTTGAGCTCC CAGGACCAAGCCAGGCAGTCAAAGGGGACCCACCTCCCATCTCAGATGCTGAGTTCCGCCCATCTTCAGAAATTG TGAAGATCTGGGAGGGAATGGAGTCTTCCGGAGGGAGCCCTGGGAAGGGGCCAGGCCAGGCCAATGGCT TTGACCTGCATGAGCCACTCTTCATCCTGGAGGAGCATGAGCTGGGAGCCATCACAGAGGAGTCGGCCACTGCCT CCCCGGAAAGCTCCTCTCCCACTGAGGGGCGCAGCCCGGCCCACCTGGCCCGGGAGCTGAAAGAGCTGGTGAAGG AGCTGAGCAGCAGTACCCAGGGGGGGGCTGGTGGCCCCACTGCACCCCGCATCGTGCAGCTCTCCCACGTAATGG ACAGCCACGTGAGCGAGCGCGTCAAGAACAAGGTCTACCAGCTGGCCCGCCAGTACAGCCTCCGGATCAAGAGCA ACAAGCCAGTGATGGCCAGGCCACCACTGCAGTGGGAAAAGGTGGCCCCTGAGAGGGGATGGGAAGAGCCCCACTG TGCCCTGTCTACAGGAAGAGGCTGGAGAGCCATTAGGTGGCAAAGGTAAGAGGAAGCCGGTGCTGTCTCTATTTG ACTATGAGCAGCTGATGGCCCAGGAGCACAGCCCTCCCAAGCCCTCCTCGGCTGGGGAGATGTCACCACAGCGTT GCCCCACAGAGACCTTCAGCTGGCCCGACGTCCGTGAGCTCTGCTCCAAGTATGCCTCCCGCGATGAGGCACGCC GAGCAGGGGGCGGCCCGCGGCCCACCCGTCAACAGGAGCCACTCGGTGCCGGAGAACATGGTAGAGCCAC CTCTGTCGGGCAGGGTGGGCCGCAGCCTGAGCACCAAGAGGGGCCGGGGAGGCGGAGAGGCTGCCCAAT CCCCTGGGCCTCTGCCCCAGAGCAAGCCGGATGGAGGCGAGACCCTGTATGTCACTGCAGACCTCACCCTGGAGG ACAACCGGCGGGTGATTGTCATGGAGAAGGGACCCCTTCCCAGCCCCACTGCAGGGCTGGAGGAGAGCAGTGGCC

## FIGURE 4014B

MGKGRRESESSRSSRRPSGRSPTSTEKRMSFESISSLPEVEPDPEAGSEQEVFSAVEGPSAEETPSDTESPEVLE
TQLDAHQGLLGMDPPGDMVDFVAAESTEDLKALSSEEEEEMGGAAQEPESLLPPSVLDQASVIAERFVSSFSRRS
SVAQEDSKSSGFGSPRLVSRSSSVLSLEGSEKGLARHGSATDSLSCQLSPEVDISVGVATEDSPSVNGMEPPSPG
CPVEPDRSSCKKKESALSTRDRLLLDKIKSYYENAEHHDAGFSVRRRESLSYIPKGLVRNSISRFNSLPRPDPEP
VPPVGSKRQVGSRPTSWALFELPGPSQAVKGDPPPISDAEFRPSSEIVKIWEGMESSGGSPGKGPGQGQANGFDL
HEPLFILEEHELGAITEESATASPESSSPTEGRSPAHLARELKELVKELSSSTQGELVAPLHPRIVQLSHVMDSH
VSERVKNKVYQLARQYSLRIKSNKPVMARPPLQWEKVAPERDGKSPTVPCLQEEAGEPLGGKGKRKPVLSLFDYE
QLMAQEHSPPKPSSAGEMSPQRFFFNPSAVSQRTTSPGGRPSARSPLSPTETFSWPDVRELCSKYASRDEARRAG
GGRPRGPPVNRSHSVPENMVEPPLSGRVGRCRSLSTKRGRGGGEAAQSPGPLPQSKPDGGETLYVTADLTLEDNR
RVIVMEKGPLPSPTAGLEESSGQGPSSPVALLGQVQDFQQSAECQPKEEGSRDPADPSQQGRVRNLREKFQALNS
VG

#### 4354/6881 FIGURE 4016A

CACGAGGCAGCACTCTCTCGTCGCTTCGGCCAGTGTGTCGGGCTGGGCCCTGACAAGCCACCTGAGGAGAGGCT GGCCGCCGCGTGAAGACATCGCGGGGACCGATTCACC<u>ATG</u>GAGGGCGCCGGCGGCGCGAACGACAAGAAAAAG ATAAGTTCTGAACGTCGAAAAGAAAGTCTCGAGATGCAGCCAGATCTCGGCGAAGTAAAGAATCTGAAGTTTTT TATGAGCTTGCTCATCAGTTGCCACTTCCACATAATGTGAGTTCGCATCTTGATAAGGCCTCTGTGATGAGGCTT ACCATCAGCTATTTGCGTGTGAGGAAACTTCTGGATGCTGGTGATTTGGATATTGAAGATGACATGAAAGCACAG ATGAATTGCTTTTATTTGAAAGCCTTGGATGGTTTTGTTATGGTTCTCACAGATGATGGTGACATGATTTACATT CCATGTGACCATGAGGAAATGAGAAATGCTTACACACAGAAATGCCTTGTGAAAAAAGGGTAAAGAACAAAAAC ACACAGCGAAGCTTTTTTCTCAGAATGAAGTGTACCCTAACTAGCCGAGGAAGAACTATGAACATAAAGTCTGCA AAGAAACCACCTATGACCTGCTTGGTGCTGATTTGTGAACCCATTCCTCACCCATCAAATATTGAAATTCCTTTA GATAGCAAGACTTTCCTCAGTCGACACAGCCTGGATATGAAATTTTCTTATTGTGATGAAAGAATTACCGAATTG ATGGGATATGAGCCAGAAGAACTTTTAGGCCGCTCAATTTATGAATATTATCATGCTTTGGACTCTGATCATCTG ACCAAAACTCATCATGATATGTTTACTAAAGGACAGTCACCACAGGACAGTACAGGATGCTTGCCAAAAGAGGT GGATATGTCTGGGTTGAAACTCAAGCAACTGTCATATATAACACCAAGAATTCTCAACCACAGTGCATTGTATGT  ${\tt CCGGTTGAATCTTCAGATATGAAAATGACTCAGCTATTCACCAAAGTTGAATCAGAAGATACAAGTAGCCTCTTT}$ GACAAACTTAAGAAGGAACCTGATGCTTTAACTTTGCTGGCCCCAGCCGCTGGAGACACAATCATATCTTTAGAT TTTGGCAGCAACGACACAGAAACTGATGACCAGCAACTTGAGGAAGTACCATTATATAATGATGTAATGCTCCCC TCACCCAACGAAAAATTACAGAATATAAATTTGGCAATGTCTCCATTACCCACCGCTGAAACGCCAAAGCCACTT CGAAGTAGTGCTGACCCTGCACTCAATCAAGAAGTTGCATTAAAATTAGAACCAAATCCAGAGTCACTGGAACTT TCTTTTACCATGCCCCAGATTCAGGAICAGACACCTAGTCCTTCCGATGGAAGCACTAGACAAAGTTCACCTGAG CCTAATAGTCCCAGTGAATATTGTTTTTATGTGGATAGTGATATGGTCAATGAATTCAAGTTGGAATTGGTAGAA AAACTTTTTGCTGAAGACACAGAAGCAAAGAACCCATTTTCTACTCAGGACACAGATTTAGACTTGGAGATGTTA GCTCCCTATATCCCAATGGATGATGACTTCCAGTTACGTTCCTTCGATCAGTTGTCACCATTAGAAAGCAGTTCC GCAAGCCCTGAAAGCGCAAGTCCTCAAAGCACAGTTACAGTATTCCAGCAGACTCAAATACAAGAACCTACTGCT AATGCCACCACTACCACTGCCACCACTGATGAATTAAAAACAGTGACAAAAGACCGTATGGAAGACATTAAAATA TTGATTGCATCTCCATCTCCTACCCACATACATAAAGAAACTACTAGTGCCACATCATCACCATATAGAGATACT CCTAACGTGTTATCTGTCGCTTTGAGTCAAAGAACTACAGTTCCTGAGGAAGAACTAAATCCAAAGATACTAGCT TTGCAGAATGCTCAGAGAAAGCGAAAAATGGAACATGATGGTTCACTTTTTCAAGCAGTAGGAATTGGAACATTA TTACAGCAGCCAGACGATCATGCAGCTACTACATCACTTTCTTGGAAACGTGTAAAAGGATGCAAATCTAGTGAA GATGAAAGTGGATTACCACAGCTGACCAGTTATGATTGTGAAGTTAATGCTCCTATACAAGGCAGCAGAAACCTA CTGCAGGGTGAAGAATTACTCAGAGCTTTGGATCAAGTTAAC<u>TGA</u>GCTTTTTCTTAATTTCATTCCTTTTTTTTGG ACACTGGTGGCTCACTACCTAAAGCAGTCTATTTATATTTTCTACATCTAATTTTAGAAGCCTGGCTACAATACT GCACAAACTTGGTTAGTTCAATTTTTGATCCCCTTTCTACTTAATTTACATTAATGCTCTTTTTTTAGTATGTTCT TTAATGCTGGATCACAGACAGCTCATTTTCTCAGTTTTTTGGTATTTAAACCATTGCATTGCAGTAGCATCATTT TAAAAAATGCACCTTTTTATTTATTTTTTTTTTTTGGCTAGGGAGTTTATCCCTTTTTCGAATTATTTTTAAGAAGAT GCCAATATAATTTTTGTAAGAAGGCAGTAACCTTTCATCATGATCATAGGCAGTTGAAAAAATTTTTACACCTTTT TTTTCACATTTTACATAAATAATAATGCTTTGCCAGCAGTACGTGGTAGCCACAATTGCACAATATATTTTCTTA CTATGAAATTGTTAAACCTGGAACATGACATTGTTAATCATATAATAATGATTCTTAAATGCTGTATGGTTTATT ATAAAATTCTCAATTCAGAGAAATCATCTGATGTTTCTATAGTCACTTTGCCAGCTCAAAAGAAAACAATACCCT ATGTAGTTGTGGAAGTTTATGCTAATATTGTGTAACTGATATTAAACCTAAATGTTCTGCCTACCCTGTTGGTAT

### 4355/6881 FIGURE 4016B

## FIGURE 4017

MEGAGGANDKKKISSERRKEKSRDAARSRRSKESEVFYELAHQLPLPHNVSSHLDKASVMRLTISYLRVRKLLDA
GDLDIEDDMKAQMNCFYLKALDGFVMVLTDDGDMIYISDNVNKYMGLTQFELTGHSVFDFTHPCDHEEMREMLTH
RNGLVKKGKEQNTQRSFFLRMKCTLTSRGRTMNIKSATWKVLHCTGHIHVYDTNSNQPQCGYKKPPMTCLVLICE
PIPHPSNIEIPLDSKTFLSRHSLDMKFSYCDERITELMGYEPEELLGRSIYEYYHALDSDHLTKTHHDMFTKGQV
TTGQYRMLAKRGGYVWVETQATVIYNTKNSQPQCIVCVNYVVSGIIQHDLIFSLQQTECVLKPVESSDMKMTQLF
TKVESEDTSSLFDKLKKEPDALTLLAPAAGDTIISLDFGSNDTETDDQQLEEVPLYNDVMLPSPNEKLQNINLAM
SPLPTAETPKPLRSSADPALNQEVALKLEPNPESLELSFTMPQIQDQTPSPSDGSTRQSSPEPNSPSEYCFYVDS
DMVNEFKLELVEKLFAEDTEAKNPFSTQDTDLDLEMLAPYIPMDDDFQLRSFDQLSPLESSSASPESASPQSTVT
VFQQTQIQEPTANATTTTATTDELKTVTKDRMEDIKILIASPSPTHIHKETTSATSSPYRDTQSRTASPNRAGKG
VIEQTEKSHPRSPNVLSVALSQRTTVPEEELNPKILALQNAQRKRKMEHDGSLFQAVGIGTLLQQPDDHAATTSL
SWKRVKGCKSSEQNGMEQKTIILIPSDLACRLLGQSMDESGLPQLTSYDCEVNAPIQGSRNLLQGEELLRALDQV
N

TGTGTCCCTGGCCATGGCGCTGCAGCTCTCCCGGGAGCAGGGAATCACCCTGCGTGGGAGTGCCGAAATCGTGGA CGAGTTCTTCTCATTCGGCATCAACAGCATTTTATATCAGCGTGGCATTTATCCATCTGAAATCTTTACTCGAGT GCAGAAATACGGACTCACCTTGCTTGTAACTACTGATCTTGAGCTCATAAAATACCTAAATAATGTGGTGGAACA ACTAAAAGATTGGTTATACAAGTGTTCAGTTCAGAAACTGGTTGTAGTTATCTCAAATATTGAAAAGTGGTGAGGT CCTGGAAAGATGACAGTTTGATATTGAGTGTGATAAGACTGCAAAAGATGACAGTGCACCCAGAGAAAAGTCTCA GANAGCTATTCAGGATGANATCCGTTCAGTCATCAGACAGATCACAGCTACAGTGACATTTCTGCCACTGTTGGA AGTTTCTTGTTCATTTGATCTGCTGATTTACACAGACAAAGATTTGGTTGTACCTGAAAAATGGGAAGAGTCGGG ACCACAGTTTATTACCAATTCTGAGGAAGTCTGCCTTTGTTCATTTACTACTACAATCCACAAAGTAAATAGCAT GĢTGGCCTACAAAATTCCTGTCAATGACTGAAGATGACATGAGGAAATAATGTAATTGTAATTTTGAAATGTGGT TTTCCTGAAATCAAGTCATCTATAGTTGATATGTTTTATTTCATTGGTTAATTTATACATGGAGAAAACCAAAAT GATACTTACTGAACTGTGTGTAATTGTTCCTTTTGTTTTTTTGGTACCTATTTGACTCACCATGGAGTTAACATC AAGATAGTAACTGTAGATGGAAAAACTTGTGCTATAAAGCTAAGTGCTTTCCTAAATCAGATGTTTTGGTCAAGT AGCTTGACTCAGTATAGGTAGGGAGATATTTAATTATAAAATACAGCAAAGGAAGTCTAAATATTCAGAATCTTT GTTAAAGTCCTGAAAGTAACTAATAATCTATAAACAATGAAATATTGCTGTGTAGCTCCTTTTGACCTTCATTTC ATGCATAATTTTCCCTATCGAATCAGTTTCCAATTATTTGACTTTAATTTATGTAACTTGAACCTGTGAAGGGAT TTAAGTGA

PCT/US2003/028547

#### 4358/6881 FIGURE 4019

ATGATGTCTTATCTTAAGCAACCGCCTTACGCAGTCAATGGGCTGAGTCTGACCACTTCGGGTATGGACTTGCTG
CACCCCTCCGTGGGCTACCCGGGGCCCTGGGCTTCTTGTCCCGCAGCCACCCCCCGGAAACAGCGCCGGGAGAGG
ACGACGTTCACTCGGGCGCAGCTAGATGTGCTGGAAGCACTGTTTGCCAAGACCCGGTACCCAGACATCTTCATG
CGAGAGGAGGTGGCACTGAAAATCAACTTGCCCGAGTCGAGGGTGCAGGTATGGTTTAAGAATCGAAGAGCTAAG
TGCCGCCAACAACAGCAACAACAGCAGAATGGAGGTCAAAACAAAGTGAGACCTGCCAAAAAGAAGACATCTCCA
GCTCGGGAAGTGAGTTCAGAGAGTGGAACAAGTGGCCAATTCACTCCCCCCTCTAGCACCTCAGTCCCGACCATT
GCCAGCAGCAGTGCTCCTGTGTCTATCTGGAGCCCAGCTTCCATCTCCCCACTGTCAGATCCCTTGTCCACCTCC
TCTTCCTGCATGCAGAGGTCCTATCCCATGACCTATACTCAGGCTTCAGGTTATAGTCAAGGATATGCTGGCTCA
ACTTCCTACTTTGGGGGCATGGACTGTGGATCATATTTGACCCCTATGCATCACCAGCTTCCCGGACCAGGGGC
ACACTCAGTCCCATGGGTACCAATGCAGTCACCAGCTTCCAATCAGTCCCCAGCTTCTTTCCACCCAGGGA
TATGGAGCTTCAAGCTTGGGTTTTAACTCAACCACTGATTGCTTGGATTATAAAGGACCAAACTGCCTCCTGGAAG
CTTAACTTCAATGCTGACTGCTTGGATTATAAAGATCAGACATCCTCGTGGAAATTCCAGGTTTTTGTGA

MMSYLKQPPYAVNGLSLTTSGMDLLHPSVGYPGPWASCPAATPRKQRRERTTFTRAQLDVLEALFAKTRYPDIFM REEVALKINLPESRVQVWFKNRRAKCRQQQQQQQNGGQNKVRPAKKKTSPAREVSSESGTSGQFTPPSSTSVPTI ASSSAPVSIWSPASISPLSDPLSTSSSCMQRSYPMTYTQASGYSQGYAGSTSYFGGMDCGSYLTPMHHQLPGPGA TLSPMGTNAVTSHLNQSPASLSTQGYGASSLGFNSTTDCLDYKDQTASWKLNFNADCLDYKDQTSSWKFQVL

 ${\tt MADNFSLHDALSGSGNPNPQGWPGAWGNQPAGAGGYPGASYPGAYPGQAPPGAYPGAYHGAPGAYPGAPAPAPGYPGAPAGYPGAPAGYPGAPAGYPGAPAGPLIVPYNLPLPGGVVPRMLITILGTVKPNANRIALDFQRGNDVAFHFNPRFNENNRRVIVCNTKLDNNWGREERQSVFPFESGKPFKIQVLVEPDHFKVAVNDAHLLQYNHRVKKLNEISKLGISGDIDLTSASYTMI}$ 

CTGCGCCGCCTTTCTCCGCTGGCAACGGCGCCGCTCCCCGCTCCTCCTCCCCAGCCATGGCGTTCACGTTCGCGG CCTTCTGCTACATGCTGGCGCTGCTCACTGCCGCGCTCATCTTCTTCGCCATTTGGCACATTATAGCATTTG ATGAGCTGAAGACTGATTACAAGAATCCTATAGACCAGTGTAATACCCTGAATCCCCTTGTACTCCCAGAGTACC TCATCCACGCTTTCTTCTGTGTCATGTTTCTTTGTGCAGCAGAGTGGCTTACACTGGGTCTCAATATGCCCCTCT TGGCATATCATATTTGGAGGTATATGAGTAGACCAGTGATGAGTGGCCCAGGACTCTATGACCCTACAACCATCA TGAATGCAGATATTCTAGCATATTGTCAGAAGGAAGGATGGTGCAAATTAGCTTTTTATCTTCTAGCATTTTTTT ATGCAAAAAGCCACCAAATGAAGGGATTCTATCCAGCAAGATCCTGTCCAAGAGTAGCCTGTGGAATCTGATCAG TTACTTTAAAAAATGACTCCTTATTTTTTAAATGTTTCCACATTTTTGCTTGTGGAAAGACTGTTTTCATATGTT ATACTCAGATAAAGATTTTAAATGGTATTACGTATAAATTAATATAAAATGATTACCTCTGGTGTTGACAGGTTT AGCTTTTGTTTATAGGAACTTGTAGGGCTCATTTTGGTTTCATTGAAACAGTATCTAATTATAAATTAGCTGTAG ATATCAGGTGCTTCTGATGAAGTGAAAATGTATATCTGACTAGTGGGAAACTTCATGGGTTTCCTCATCTGTCAT GTCGATGATTATATGGATACATTTACAAAAATAAAAAGCGGGAATTTTCCCTTCGCTTGAATATTATCCCTGT TAAACATGATATAAAAATATATGCTGAATTACTTGTGAAGAATGCATTTAAAGCTATTTTAAATGTGTTTTTATT TGTAAGACATTACTTATTAAGAAATTGGTTATTATGCTTACTGTTCTAATCTGGTGGTAAAGGTATTCTTAAGAA TTTGCAGGTACTACAGATTTTCAAAACTGAATGAGAGAAAATTGTATAACCATCCTGCTGTTCCTTTAGTGCAAT ACAATAAAACTCTGAAATTAAG

#### 4364/6881 FIGURE 4025A

<u>ATG</u>GAGGGGGACCGGGTGCCGGCGGCCGGTGCTGTCGTCGTTACCAGTGCTACTGCTGCCGTTGCTAATG TTGCGGGCCGCGCGCTGCACCCAGACGAGCTCTTCCCACACGGGGAGTCGTGGGGGGACCAGCTCCTGCAGGAA GGCGACGACGAAAGCTCAGCCGTGGTGAAGCTGGCGAATCCCCTGCACTTCTACGAAGCCCGATTCAGCAACCTC TACGTGGGCACCAACGGCATCATCTCCACTCAGGACTTCCCCAGGGAAACGCAGTATGTGGACTATGATTTCCCC ACCGACTTCCCGGCCATCGCCCCTTTTCTGGCGGACATCGACACGAGCCACGGCAGAGGCCGAGTCCTGTACCGA GAGGACACCTCCCCGCAGTGCTGGGCCTGGCCGCCCGCTATGTGCGCGCTGGCTTCCCGCGCTCTGCGCGCTTT ACCCCACCCACGCCTTCCTGGCCACCTGGGAGCAGGTAGGCGCTTACGAGGAGGTCAAGCGCGGGGCGCTGCCC GCCAACGCCTGCAGTTCCTTGGAACCCGCCCCAAAGAGTCTTACAATGTCCAGCTTCAGCTTCCAGCTCGGGTG GGCTTCTGCCGAGGGGAGGCTGATGATCTGAAGTCAGAAGGACCATATTTCAGCTTGACTAGCACTGAACAGTCT GTGAAAAATCTCTATCAACTAAGCAACCTGGGGATCCCTGGAGTGTGGGCTTTCCATATCGGCAGCACTTCCCCG TTGGACAATGTCAGGCCAGCTGCAGTTGGAGACCTTTCCGCTGCCCACTCTTCTGTTCCCCTGGGACGTTCCTTC AGCCATGCTACAGCCCTGGAAAGTGACTATAATGAGGACAATTTGGATTACTATGATGTGAATGAGGAGGAAGCT GATACAAAGCCTTTAGAGGAATCTTCCACCTTGGATCCTCACACCAAAGAAGGAACATCTCTGGGAGAGGTAGGG AGAGATTCACTGGCTCCTTCCTGGGAAACCCCACCACCGTACCCGAAAACGGAAGCATCCAGCCCTACCCAGAT GGAGGGCCAGTGCCTTCGGAAATGGATGTTCCCCCAGCTCATCCTGAAGAAGAAATTGTTCTTCGAAGTTACCCT GCTTCAGGTCACACTACACCCTTAAGTCGAGGGACGTATGAGGTGGGACTGGAAGACAACATAGGTTCCAACAC GAGGTCTTCACGTATAATGCTGCCAACAAGGAAACCTGTGAACACAACCACAGACAATGCTCCCGGCATGCCTTC TGCACGGACTATGCCACTGGCTTCTGCTGCCACTGCCAATCCAAGTTTTATGGAAATGGGAAGCACTGTCTGCCT GAAGGGCACCTCACCGAGTGAATGGGAAAGTGAGTGGCCACCTCCACGTGGGCCATACACCCGTGCACTTCACT GATGTGGACCTGCATGCGTATATCGTGGGCAATGATGGCAGAGCCTACACGGCCATCAGCCACATCCCACAGCCA TCTGAGAACGGCTTCAGCCTCGCAGGTGCTGCCTTTACCCATGACATGGAAGTTACATTCTACCCGGGAGAGGAG ACGGTTCGTATCACTCAAACTGCTGAGGGACTTGACCCAGAGAACTACCTGAGCATTAAGACCAACATTCAAGGC CAGGTGCCTTACGTCTCAGCAAATTTCACAGCCCACATCTCTCCCTACAAGGAGCTGTACCACTACTCCGACTCC ACTGTGACCTCTACAAGTTCCAGAGACTACTCTCTGACTTTTGGTGCAATCAACCAAACATGGTCCTACCGCATC CACCAGAACATCACTTACCAGGTGTGCAGGCACGCCCCCAGACACCCGTCCTTCCCCACCACCCAGCAGCTGAAC GTGGACCGGGTCTTTGCCTTGTATAATGACGAAGAAAGAGTGCTTAGATTTGCTGTGACCAATCAAATTGGCCCG GTCAAAGAGGATTCAGACCCCACTCCGGGGAATCCTTGCTATGATGGGAGCCACATGTGTGACACAACAGCACGG TGCCATCCAGGGACAGGTGTAGATTACACCTGTGAGTGCGCATCTGGGTACCAGGGAGATGGACGGAACTGTGTG AGGTGTGAGTGCCGGAGTGGTTATGAGTTTGCAGATGACCGGCATACTTGCATCTTGATCACCCCACCTGCCAAC CCCTGTGAGGATGGCAGTCATACCTGTGCTCCTGCTGGGCAGGCCCGGTGTGTTCACCATGGAGGCAGCACGTTC AGCTGTGCCTGCCTGGTTATGCCGGCGATGGGCACCAGTGCACTGATGTAGATGAATGCTCAGAAAACAGA TGTCACCCTGCAGCTACCTGCTACAATACTCCTGGTTCCTTCTCCTGCCGTTGTCAACCCGGATATTATGGGGAT GGATTTCAGTGCATACCTGACTCCACCTCAAGCCTGACACCCTGTGAACAACAGCAGCGCCATGCCCAGGCCCAG TATGCCTACCCTGGGGCCCGGTTCCACATCCCCCAATGCGACGAGCAGGCAACTTCCTGCCCCTACAGTGTCAT GGCAGCACTGGTTTCTGCTGGTGCGTGGACCCTGATGGTCATGAAGTTCCTGGTACCCAGACTCCACCTGGCTCC ACCCCGCCTCACTGTGGACCATCACCAGAGCCCACCAGAGGCCCCCGACCATCTGTGAGCGCTGGAGGGAAAAAC CTGCTGGAGCACTACGGTGGCACCCCCGAGATGACCAGTACGTGCCCCAGTGCGATGACCTGGGCCACTTCATC CCCCTGCAGTGCCACGGAAAGAGCGACTTCTGCTGGTGTGTGGACAAAGATGGCAGAGAGGTGCAGGGCACCCGC TCCCAGCCAGGCACCACCCTGCGTGTATACCCACCGTCGCTCCACCCATGGTCCGGCCCACGCCCCGGCCAGAT GTGACCCCTCCATCTGTGGGCACCTTCCTGCTCTATACTCAGGGCCAGCAGATTGGCTACTTACCCCTCAATGGC ACCAGGCTTCAGAAGGATGCAGCTAAGACCCTGCTGTCTCTGCATGGCTCCATAATCGTGGGAATTGATTACGAC GAGCCTGAGACGATCGTGAATTCAGGTCTGATAAGCCCTGAAGGACTTGCCATAGACCACATCCGCAGAACAATG

#### 4365/6881 FIGURE 4025B

TACTGGACGGACAGTGTCCTGGATAAGATAGAGAGCGCCCTGCTGGATGGCTCTGAGCGCAAGGTCCTCTTCTAC ACAGATCTGGTGAATCCCCGTGCCATCGCTGTGGATCCAATCCGAGGCAACTTGTACTGGACAGACTGGAATAGA GAAGCTCCTAAAATTGAAACGTCATCTTTAGATGGAGAAAACAGAAGAATTCTGATCAATACAGACATTGGATTG CCCAATGGCTTAACCTTTGACCCTTTCTCTAAACTGCTCTGCTGGGCAGATGCAGGAACCAAAAAACTGGAGTGT ACACTACCTGATGGAACTGGACGGCGTGTCATTCAAAACAACCTCAAGTACCCCTTCAGCATCGTAAGCTATGCA GAGTATCTCCCAGAACAACGATCTCACCTCTACGGGATAACTGCAGTCTACCCCTACTGCCCAACAGGAAGAAAG TAACTACAGTAATGTAAAGGAAGACTTGGAGTTTACAATCAGAACCTGGACCCTAAAGAACAGTGACTGCAAAGG CAAAGAAAGTAAAAAAGGAATTGGCCATTAGACGTTCCTGAGCATCCAAGATGAACATTTTGTAGTGCAAAAAAGA CTTTTGTGAAAAGCTGATACCTCAATCTTTACTACTGTATTTTTAAAAATGAAGGTTGTTATTGCAAGTTTAAAA AGGTAACAGAATTTTAACTGTTGCTTATTAAAGCAACATCTTGTAAACATTTATCATTAATATTTTAAAAGATCAA ATTCATTCAACTAAGAATTAGAGTTTAAGACTCTAAACCTGATTTTTGCCATGGATTCCTTCTGGCCAAGAAATT AAAGCACATGTGATCAATATAACAATATAATCCTAAACCTTGACAGTTGGAGAAGCCAATGCAGAACTGATGGGA AAGGACCAATTATTTATAGTTTCCCAACAAAAGTTCTAAGATTTTTTACCTCTGCATCAGTGCATTTCTATTTAT ATCAAAAGGTGCTAAAATGATTCAATTTGCATTTTCTGATCCTGTAGTGCCTCTATAGAAGTACCCACAGAAAGT AAAGTATCACATTTATAAATACCAAAGATGTAACAATTTTAAAATTTTCTAGATTACTCCAATAAAGTGTTTTAA GTTT

WO 2004/030615 PCT/US2003/028547

## FIGURE 4026

 $exttt{MEGDRVAGRPVLSSLPVLLLLPLLMLRAAALHPDELFPHGESWGDQLLQEGDDESSAVVKLANPLHFYEARFSNL}$ YVGTNGIISTQDFPRETQYVDYDFPTDFPAIAPFLADIDTSHGRGRVLYREDTSPAVLGLAARYVRAGFPRSARF TPTHAFLATWEQVGAYEEVKRGALPSGELNTFQAVLASDGSDSYALFLYPANGLQFLGTRPKESYNVQLQLPARV GFCRGEADDLKSEGPYFSLTSTEQSVKNLYQLSNLGIPGVWAFHIGSTSPLDNVRPAAVGDLSAAHSSVPLGRSF SHATALESDYNEDNLDYYDVNEEEAEYLPGEPEEALNGHSSIDVSFQSKVDTKPLEESSTLDPHTKEGTSLGEVG GPDLKGQVEPWDERETRSPAPPEVDRDSLAPSWETPPPYPENGSIQPYPDGGPVPSEMDVPPAHPEEEIVLRSYP ASGHTTPLSRGTYEVGLEDNIGSNTEVFTYNAANKETCEHNHRQCSRHAFCTDYATGFCCHCQSKFYGNGKHCLP EGAPHRVNGKVSGHLHVGHTPVHFTDVDLHAYIVGNDGRAYTAISHIPQPAAQALLPLTPIGGLFGWLFALEKPG SENGFSLAGAAFTHDMEVTFYPGEETVRITQTAEGLDPENYLSIKTNIQGQVPYVSANFTAHISPYKELYHYSDS TVTSTSSRDYSLTFGAINQTWSYRIHQNITYQVCRHAPRHPSFPTTQQLNVDRVFALYNDEERVLRFAVTNQIGP VKEDSDPTPGNPCYDGSHMCDTTARCHPGTGVDYTCECASGYQGDGRNCVDENECATGFHRCGPNSVCINLPGSY RCECRSGYEFADDRHTCILITPPANPCEDGSHTCAPAGQARCVHHGGSTFSCACLPGYAGDGHQCTDVDECSENR CHPAATCYNTPGSFSCRCQPGYYGDGFQCIPDSTSSLTPCEQQQRHAQAQYAYPGARFHIPQCDEQGNFLPLQCH GSTGFCWCVDPDGHEVPGTQTPPGSTPPHCGPSPEPTQRPPTICERWRENLLEHYGGTPRDDQYVPQCDDLGHFI PLQCHGKSDFCWCVDKDGREVQGTRSQPGTTPACIPTVAPPMVRPTPRPDVTPPSVGTFLLYTQGQQIGYLPLNG TRLQKDAAKTLLSLHGSIIVGIDYDCRERMVYWTDVAGRTISRAGLELGAEPETIVNSGLISPEGLAIDHIRRTM YWTDSVLDKIESALLDGSERKVLFYTDLVNPRAIAVDPIRGNLYWTDWNREAPKIETSSLDGENRRILINTDIGL PNGLTFDPFSKLLCWADAGTKKLECTLPDGTGRRVIQNNLKYPFSIVSYADHFYHTDWRRDGVVSVNKHSGQFTD EYLPEQRSHLYGITAVYPYCPTGRK

ACACTTGAGGACTTCAGCTTCTCACCTACTTAGTACAGTTGGGAACCATACACTTCTGGCATGTTTGGAAATCAA
AATGTCACATTCTCGGGGGAGGAAGCCCAGAAAATTGGGTATGTTCTAGAGATTTACCACCATTGCTTATTGCTT
TTTTCTTTAATAAAGTTTAGGAAAGTAGAA

MFRRKLTALDYHNPAGFNCKDETEFRNFIVWLEDQKIRHYKIEDRGNLRNIHSSDWPKFFEKYLRDVHCPFKIQD RQEAIHWLLGLAVRLEYGDNAEKYKDLVPDNSKTADNATKNAEPLINLDVNNPDFKAGVMALANLLQIQRHDDYL VMLKAIRILVQERLTQDAVAKANQTKEGLPVALDKHILGFDTGDAVLNEAAQILRLLHIEELRELQTKINEAIVA VQAIIADPKTDHRLGKVGR

GAGAAGCGGCGGCAGATCAGCATCCGCGGCATCGTGGGCGTGGAGAACGTGGCAGAGCTGAAGAAGAGTTTCAAC CGGCACCTGCACTTCACGCTGGTCAAGGACCGCAACGTGGCCACCACCCGCGACTACTACTTCGCGCTGGCGCAC TATTACCTCTCTCTGGAATTTTACATGGGCCGAACATTACAGAACACCATGATCAACCTCGGTCTGCAAAATGCC AATGGTGGTCTTGGGAGACTTGCTGCCTGCTTCTTGGATTCCATGCCAACCCTGGGACTTGCAGCCTATGGATAC CTCAGATATGGAAACCCTTGGGAGAAGTCCCGCCCAGAATTCATGCTGCCTGTGCACTTCTATGGAAAAGTAGAA CACACCAACACCGGGACCAAGTGGATTGACACTCAAGTGGTCCTGGCTCTGCCATATGACACCCCCGTGCCCGGC TACATGAATAACACTGTCAACACCATGCGCCTCTGGTCTGCTCGGGCACCAAATGACTTTAACCTCAGAGACTTT GACAATTTTTTTGAAGGGAAGGAGCTAAGATTGAAGCAGGAATACTTTGTGGTGGCTGCAACCTTGCAAGATATC ATCCGCCGTTTCAAAGCCTCCAAGTTTGGCTCCACCCGTGGTGCAGGAACTGTGTTTGATGCCTTCCCGGATCAG GTGGCCATCCAGCTGAATGATACTCACCCTGCACTCGCGATCCCTGAGCTGATGAGGATTTTTGTGGATATTGAA GCCCTGGACCGCTGGCCCGTGGACCTGGTGGAGAAGCTGCTCCCTCGACATTTGGAAATCATTTATGAGATAAAT CAGAAGCATTTAGATAGAATTGTGGCCTTGTTTCCTAAAGATGTGGACCGTCTGAGAAGGATGTCTCTGATAGAA GAGGAAGGAAGCAAAAGGATCAACATGGCCCATCTCTGCATTGTCGGTTCCCATGCTGTGAATGGCGTGGCTAAA ATCCACTCAGACATCGTGAAGACTAAAGTATTCAAGGACTTCAGTGAGCTAGAACCTGACAAGTTTCAGAATAAA ACCAATGGGATCACTCCAAGGCGCTGGCTCCTACTCTGCAACCCAGGACTTGCAGAGCTCATAGCAGAGAAAATT GGAGAAGACTATGTGAAAGACCTGAGCCAGCTGACGAAGCTCCACAGCTTCCTGGGTGATGATGTCTTCCTCCGG GAACTCGCCAAGGTGAAGCAGAAATAAGCTGAAGTTTTCTCAGTTCCTGGAGACGGAGTACAAAGTGAAGATC AACCCATCCTCCATGTTTGATGTCCAGGTGAAGAGGATACATGAGTACAAGCGACAGCTCTTGAACTGTCTGCAT GTGATCACGATGTACAACCGCATTAAGAAAGACCCTAAGAAGTTATTCGTGCCAAGGACAGTTATCATTGGTGGT AAAGCTGCCCCAGGATATCACATGGCCAAAATGATCATAAAGCTGATCACTTCAGTGGCAGATGTGGTGAACAAT GACCCTATGGTTGGAAGCAAGTTGAAAGTCATCTTCTTGGAGAACTACAGAGTATCTCTTGCTGAAAAAAGTCATT CCAGCCACAGATCTGTCAGAGCAGATTTCCACTGCAGGCACCGAAGCCTCGGGGACAGGCAATATGAAGTTCATG CTAAATGGGGCCCTAACTATCGGGACCATGGATGGGGCCAATGTGGAAATGGCAGAAGAAGCTGGGGAAGAAGAAC CTGTTCATCTTTGGCATGAGGATAGATGTGGCTGCTTTGGACAAGAAAGGGTACGAGGCAAAAGAATACTAT GAGGCACTTCCAGAGCTGAAGCTGGTCATTGATCAAATTGACAATGGCTTTTTTTCTCCCAAGCAGCCTGACCTC TTCAAAGATATCATCAACATGCTATTTTATCATGACAGGTTTAAAGTCTTTGCAGACTACGAAGCCTATGTCAAG TGTCAAGATAAAGTGAGTCAGCTGTACATGAATCCAAAGGCCTGGAACACAATGGTACTCAAAAACATAGCTGCC TCGGGGAAATTCTCCAGTGACCGAACAATTAAAGAATATGCCCAAAACATCTGGAACGTGGAACCTTCAGATCTA AAGATTTCTCTATCCAATGAATCTAACAAAGTCAATGGAAATTGAACTCTACAATGTCTCTAGAAAACATAGCTT CTTACTGAACTTGAACAT

MAKPLTDQEKRRQISIRGIVGVENVAELKKSFNRHLHFTLVKDRNVATTRDYYFALAHTVRDHLVGRWIRTQQHY
YDKCPKRVYYLSLEFYMGRTLQNTMINLGLQNACDEAIYQLGLDIEELEEIEEDAGLGNGGLGRLAACFLDSMAT
LGLAAYGYGIRYEYGIFNQKIRDGWQVEEADDWLRYGNPWEKSRPEFMLPVHFYGKVEHTNTGTKWIDTQVVLAL
PYDTPVPGYMNNTVNTMRLWSARAPNDFNLRDFNVGDYIQAVLDRNLAENISRVLYPNDNFFEGKELRLKQEYFV
VAATLQDIIRRFKASKFGSTRGAGTVFDAFPDQVAIQLNDTHPALAIPELMRIFVDIEKLPWSKAWELTQKTFAY
TNHTVLPEALERWPVDLVEKLLPRHLEIIYEINQKHLDRIVALFPKDVDRLRRMSLIEEEGSKRINMAHLCIVGS
HAVNGVAKIHSDIVKTKVFKDFSELEPDKFQNKTNGITPRRWLLLCNPGLAELIAEKIGEDYVKDLSQLTKLHSF
LGDDVFLRELAKVKQENKLKFSQFLETEYKVKINPSSMFDVQVKRIHEYKRQLLNCLHVITMYNRIKKDPKKLFV
PRTVIIGGKAAPGYHMAKMIIKLITSVADVVNNDPMVGSKLKVIFLENYRVSLAEKVIPATDLSEQISTAGTEAS
GTGNMKFMLNGALTIGTMDGANVEMAEEAGEENLFIFGMRIDDVAALDKKGYEAKEYYEALPELKLVIDQIDNGF
FSPKQPDLFKDIINMLFYHDRFKVFADYEAYVKCQDKVSQLYMNPKAWNTMVLKNIAASGKFSSDRTIKEYAQNI
WNVEPSDLKISLSNESNKVNGN

GTAGCGGGAGCGGACCCCAGAGAGCCCTGAGCAGCCCCACCGCCGCCGCCGCCTAGTTACCGTCACA  $\tt CCCCGGGAGGCCGCAGCCGCCGCCGCCGCAGTCACCATCACCGCAACCATGAGCAGCCGAGGCCGAGACC$ GGTGGCCCGGGCGCCTCACATCGGCGGCGCCTGCCGGCGGCACAAAAAGGTCATCGCAACGAAGGTTTTGGGA ACGGTAAAATGGTTCAATGTAAGGAACGGATATGGTTTCATCCACAGGAACGACACCAAGGAAGATGTATTTGTA CACCACACTGCCATGAAGAAGAATAACCCCAGGAAGTACCTTCGCAGTGTAGGAGATGGAGAGACTGTGGAGTTT GATGTTGTTGAAGGAGAAAAGGGTGCGAAGGCAGCAAATGTTACAGGTCCTGGTGGTGTTCCAGTTCAAGGCAGT AAATATGCAGCAGACCGTAACCATTATAGACGCTATCCACGTCCTAGGGGTCCTCCACGCAATTACCAGCAAAAAT TACCAGAATAGTGAGAGTGGGGAAAAGAACGAGGGATCGGAGAGTGCTCCCGAAGGCCAGGCCCAACAACGCCGG CCCTACCGCAGGCGAAGGTTCCCACCTTACTACATGCGGAGACCCTATGGGCGTCGACCACAGTATTCCAACCCT CCTGTGCAGGGAGAAGTGATGGAGGGTGCTGACAACCAGGGTGCAGGAGAACAAGGTAGACCAGTGAGGCAGAAT ATGTATCGGGGATATAGACCACGATTCCGCAGAGGCCCTCCTCTCCAAAGACAGCCTAGAGAGGACGGCAATGAA GAAGATAAAGAAAATCAAGGAGATGAGACCCAAGGTCAGCAGCCACCTCAACGTCGGTACCGCCGCAACTTCAAT TACCGACGCCGACGCCCAGAAAACCCTAAACCACAAGATGGCAAAGAGACAAAAGCAGCCAATCCACCAGCTGAG AATTCGTCCGCTCCCGAGGCTGAGCAGGGCGGGCTTGAGTAAATGCCGGCTTACCATCTCTACCATCATCCGGT TTAGTCATCCAACAAGAAGAAATAATGAAATTCCAGCAATAAGAATGAACAAAAGATTGGAGCTGAAGACCTTA AATGCTTGCATTTTGCCCGTTGACCAGATAAATAGATCTGCATTATCTATGCAGCATGGGGTTTTTATTATTTTT ACCTAAAGACGTCTCTTTTTGGTAATAACAAACGTGTTTTTTAAAAAAGCCTGGTTTTTCTGAATACGCCTTTAA AGG

# 4374/6881 FIGURE 4034

CGGGAGCGGAGACCCCAGAGAGACCCTGAGCAGCCCCACCGCCGCCGCCGCCTAGTTACCGTCACACCCC
GGGAGGAGCCGCAGCTGCCGCAGCCGGCCGCAGTCACCATCACCGCAACCATGAGCAGCGAGGCCGAGACCCAGC
AGCGCGCCCTGCCGCGGCGGCACAAAAAGGTCATCGCAACGAAGGTTTTGGGAACGGTAAAATGGTTCAATGTA
AGGAACGGATATGGTTTCATCCACAGGAACGACACCAAGGAAGATGTATTTGTACACCACACTGCCATGAAGAAG
AATAACCCCAGGAAGTACCTTCGCAGTGTAGGAGATGGAGTCTGGAGTTTGATGTTGTTGAAGGAGAAAAAG
GGTGCGAAGGCAGCAAATGTTACAGGTCCTGGTGGTGTTCCAGTTCAAGGCAGTAAATATACCAGAATAGTGAGAGCTAAC
CATTATAGACGCTATCCACGTCCTAGGGGTCCTCCACGCAATTACCAGCAAAATTACCAGAATAGTGAGAGTGGG
GAAAAGAACGAGGGATCGGAGAGTGCTCCCGAAGGCCCAACAACGCCGGCCCTACCGCAGGCGAAGGTTC
CCACCTTACTACATGCGGAGACCCTATGGGCGTCGACCACAGTATTCCAACCCTCCTGTGCAGGGAGAAGTGATG
GAGGGTGCTGACAACCAGGGTGCAGAGAACAAGGTAGACCA

#### 4375/6881 FIGURE 4035

GGGCTTCCTGGTCAAGAGGGGCCACATTGTCCACAACTGGAAGGCGCGATGGTTCATCCTTCGGCAGAACACGCT GGTGTACTACAAGCTTGAGGGGGGTCGGAGAGTGACCCCTCCCAAGGGCCGGATCCTCCTGGATGGCTGCACCAT CACCTGCCCTGCCTGGAGTATGAAAACCGACCGCTCCTCATTAAGCTGAAGACTCAAACATCCACGGAGTACTT CCTGGAGGCCTGTTCTCGAGAGGAGCGGGATGCCTGGGCCTTTGAGATCACCGGGGCTATTCATGCAGGGCAGCC GGGGAAGGTCCAGCAGCTGCACAGCCTGAGAAACTCCTTCAAGCTGCCCCCGCACATCAGCCTGCATCGCATTGT GGACAAGATGCACGATAGCAACACCGGAATCCGTTCAAGCCCCAACATGGAGCAGGGAAGCACCTATAAAAAAGAC CTTCCTCGGCTCCTCCCTGGTGGACTGGCTCATCTCCAACAGCTTCACGGCCAGCCGTCTGGAGGCGGTGACCCT GGCCTCCATGCTCATGGAGGAGAACTTCCTCAGGCCTGTGGGTGTCCGAAGCATGGGAGCCATTCGCTCTGGGGA TCTGGCCGAGCAGTTCCTGGATGACTCCACAGCCCTGTACACTTTTGCTGAGAGCTACAAAAAAGAAGATAAGCCC CAAGGAAGAAATTAGCCTGAGCACTGTGGAGTTAAGTGGCACGGTGGTGAAACAAGGCTACCTGGCCAAGCAGGG TTCCAAAGAAGAACAGGCCAGTGGGTGGGTTTTCTCTTCGTGGTTCACTCGTGTCTGCTCTGGAAGATAATGG CATTCAGGCCAGCAGCAAGGCTGAGCCGAGCGGATTGAAGCTATCAAAAAGCTAACATGACAAGGACCTGA GGGAACCAGGATTCCTCCCTCCTACCAGATGACACAGACAAGAGTTCCTGGAGAATGGGAGTGTTAAGACTTTTG ACTTCTTTGTAAGTTTTGTACTGCTTTGGAGAGTGAATGCTGCCAAGAGTTCCTCAGATTACAAACAGCAGTGGT  ${\tt GCCATTTCCTTCCCCATCTTCATGTTACAAACCTGGAAAGGCTAGAACAGCCATTAGGCGTCAGCATCTTGACTT}$ TTCCCCAGCATCACAAACAGCCATTTCCTCGGGCACCAAAGTAGGTTCCCTTTGTTGGAACAATTACACTGGCCA 

MEDGVLKEGFLVKRGHIVHNWKARWFILRQNTLVYYKLEGGRRVTPPKGRILLDGCTITCPCLEYENRPLLIKLK TQTSTEYFLEACSREERDAWAFEITGAIHAGQPGKVQQLHSLRNSFKLPPHISLHRIVDKMHDSNTGIRSSPNME QGSTYKKTFLGSSLVDWLISNSFTASRLEAVTLASMLMEENFLRPVGVRSMGAIRSGDLAEQFLDDSTALYTFAE SYKKKISPKEEISLSTVELSGTVVKQGYLAKQGHKRKNWKVRRFVLRKDPAFLHYYDPSKEENRPVGGFSLRGSL VSALEDNGVPTGVKGNVQGNLFKVITKDDTHYYIQASSKAERAEWIEAIKKLT

 ${\tt GCTGGAGCATCCCGCTCTGGTGCCGCTGCAGCCGGCAGAG} \underline{{\tt ATG}} \underline{{\tt GTTGAGCTCATGTTCCCGCTGTTGCTCCTCCT}}$ TCTGCCCTTCCTTCTGTATATGGCTGCGCCCCAAATCAGGAAAATGCTGTCCAGTGGGGTGTGTACATCAACTGT TCAGCTTCCTGGGAAAGTAGTTGTGGTCACAGGAGCTAATACAGGTATCGGGAAGGAGACAGCCAAAGAGCTGGC TCAGAGAGGAGCTCGAGTATATTTAGCTTGCCGGGATGTGGAAAAGGGGGGAATTGGTGGCCAAAGAGATCCAGAC CACGACAGGGAACCAGCAGGTGTTGGTGCGGAAACTGGACCTGTCTGATACTAAGTCTATTCGAGCTTTTGCTAA GGGCTTCTTAGCTGAGGAAAAGCACCTCCACGTTTTGATCAACAATGCAGGAGTGATGATGTCCCGTACTCGAA GACAGCAGATGGCTTTGAGATGCACATAGGAGTCAACCACTTGGGTCACTTCCTCCTAACCCATCTGCTGCTAGA GAAACTAAAGGAATCAGCCCCATCAAGGATAGTAAATGTGTCTTCCCTCGCACATCACCTGGGAAGGATCCACTT CCATAACCTGCAGGGCGAGAAATTCTACAATGCAGGCCTGGCCTACTGTCACAGCAAGCTAGCCAACATCCTCTT CACCCAGGAACTGGCCCGGAGACTAAAAGGCTCTGGCGTTACGACGTATTCTGTACACCCTGGCACAGTCCAATC TGAACTGGTTCGGCACTCATCTTTCATGAGATGGATGTGGTGGCTTTTCTCCTTTTTCATCAAGACTCCTCAGCA GGGAGCCCAGACCAGCCTGCACTGTGCCTTAACAGAAGGTCTTGAGATTCTAAGTGGGAATCATTTCAGTGACTG TCATGTGGCATGGGTGTCTGTCCAAGCTCGTAATGAGACTATAGCAAGGCGGCTGTGGGACGTCAGTTGTGACCT GCTGGGCCTCCCAATAGAC<u>TAA</u>CAGGCAGTGCCAGTTGGACCCAAGAGAAGACTGCAGCAGACTACACAGTACTT CTTGTCAAAATGATTCTCCTTCAAGGTTTTCAAAACCTTTAGCACAAAGAGAGACAAAACCTTCCAGCCTTGCCTG TGTTACTGCCAGAGTTACTAGAGATATCATAATAGGATAAGAAGACCCTCATATGACCTGCACAGCTCATTTTCC TTCTGAAAGAAACTACTACCTAGGAGAATCTAAGCTATAGCAGGGATGATTTATGCAAATTTGAACTAGCTTCTT TGTTCACAATTCAGTTCCTCCCAACCAACCACCTTCACTTCAAGAGGGCCACACTGCAACCTCAGCTTAACATG AATAACAAAGACTGGCTCAGGAGCAGGGCTTGCCCAGGCATGGTGGATCACCGGAGGTCAGTAGTTCAAGACCAG CCTGGCCAACATGGTGAAACCCCACCTCTACTAAAAATTGTGTATATCTTTGTGTGTCTTCCTGTTTATGTGTGC  ${\tt CAAGGGAGTATTTTCACAAAGTTCAAAACAGCCACAATAATCAGAGATGGAGCAAACCAGTGCCATCCAGTCTTT}$ ATGCAAATGAAATGCTGCAAAGGGAAGCAGATTCTGTATATGTTGGTAACTACCCACCAAGAGCACATGGGTAGC AGGGAAGAAGTAAAAAAAGAGAAGGAGAATACTGGAAGATAATGCACAAAATGAAGGGACTAGTTAAGGATTAAC TAGCCCTTTAAGGATTAACTAGTTAAGGATTAATAGCAAAAGATATTAAATATGCTAACATAGCTATGGAGGAAT ATTATGGTCAATTTAATAATATTTTGGGGCATTTCCTTACATTGTCTTGACAAGATTAAAATGTCTGTGCCAAAA TTTTGTATTTATTTGGAGACTTCTTATCAAAAGTAATGCTGCCAAAGGAAGTCTAAGGAATTAGTAGTGTTCCC ATCACTTGTTTGGAGTGTGCTATTCTAAAAGATTTTGATTTCCTGGAATGACAATTATATTTTAACTTTGGTGGG GGAAAGAGTTATAGGACCACAGTCTTCACTTCTGATACTTGTAAATTAATCTTTTATTGCACTTGTTTTGACCAT TAAGCTATATGTTTAGAAATGGTCATTTTACGGAAAAATTAGAAAAATTCTGATAATAGTGCAGAATAAATGAAT 

# 4378/6881 FIGURE 4038

MVELMFPLLLLLPFLLYMAAPQIRKMLSSGVCTSTVQLPGKVVVVTGANTGIGKETAKELAQRGARVYLACRDV EKGELVAKEIQTTTGNQQVLVRKLDLSDTKSIRAFAKGFLAEEKHLHVLINNAGVMMCPYSKTADGFEMHIGVNH LGHFLLTHLLLEKLKESAPSRIVNVSSLAHHLGRIHFHNLQGEKFYNAGLAYCHSKLANILFTQELARRLKGSGV TTYSVHPGTVQSELVRHSSFMRWMWWLFSFFIKTPQQGAQTSLHCALTEGLEILSGNHFSDCHVAWVSVQARNET IARRLWDVSCDLLGLPID

### 4379/6881 FIGURE 4039

GAAGCCATAGTCGGCGAGCAACGCTGGAGCATCCCGCTCTGGTGCCGCTGCAGCCGGCAGAGATGGTTGAGCTCA TGTTCCCGCTGTTGCTCCTTCTGCCCTTCTGTATATGGCTGCGCCCCAAATCAGGTCTGTGCAAATGT CTCCCCTGGGGGGGCTCCAAGATGGCGGAGCCCAGAGTTCGGTGGGTTGGAGGCGAGGTCCAGCTGTCCTGGGTG CCAGGAGGACACCCGAGACCCCAGGCGGTGAGAAAGGGCGGCAGTCCGGGCCACACTGCTTTTCCCTGGCCTGTT TTTCTTTTGTCTAAGCACCCCCTGATTCTGGCTCCAGGGAATCCCGAGGGTAAGGCTACCTCAAACGCTTGAGTT TCGGACTCTTCAATGGGATATGGCCCGACGCTGTTTTCCCCTTATTCCCCACGCCTTAAACCAGCCTTCGAGGTA  ${\tt CAAAGGAGCGATTCCACATTTCGCCCTCTGAAACTGATAGCAATCGTAACATCTGCGGCCCCATCCTTGCTCTCT}$ CGTTGCTGTTACAATCGCTTGTTCTGTGGGCGGATGTTGTAAAGGAGAAAAGTGAAAAGGAGAGAGTGTTTGGTTA TGAGCTCTATCCTGCCTTGCGAGCAGGAGCACGGGGGATCTGAGTTAGGAGCTAGGGTACTGGGGCGGTGAGGGC AGCAGCGGGCTGTAAAACCGGCAGCCTGCTTATTGGTTCTAAGTAAATCACCAGTGGTGACGGACCAGTGACTGA ATAGACAGACACTCCTTCCCCAGGTGGGCGGTCTTAGTCCCAATAGAACTTGAAGCCAGGCCAGATCACAGTC TATATTTTTTCTGCCTTCTGAACACTCAGTTCTCCCACCTCTAGGCACACATGGTTTCTCACACTCAGATGAAAA CACTGCTTTTTATCTTTTTTCACTACAAGATCCTCTTATCCACATAGAATCTCAATGAAAAGTTGAACCAGAAC TGTGTGTGTGTATATATATATGTGTGTGTGTGTGTATATATATATATATATATATATATCCAGGAGCTGTATTC CCAACTCAGCAGGGTTATGGGAGTCGGGCCAGAGCTGGACTTTTATAGTTGTCTCTTTCATTCCTGCTGGTTAAG CAGCCTAGAGGCTTGTTTTCTGAGGAGGGAGGTGATGGTTTGTGGGGACCATGAGTTAATCTGCCTCCCTGTCAG CATTTTCGCACTATGCAGGTAGCTTCAATGGCTAAGAGTATGTACCTTGCAATTCCAAGTTCAATGAAAAAGGCT GAAATGCTCTTTAAGAATGCATCTCCTGGTCAACAGATTGTTTTAACCAGAGTCCCAACATTGCCAAGAAGAGAA GAAACAAGCACTCTAGGCTGGGCTTGGTGACTCACACCTGTAATCCCAGCACTTTGGGAGGCTGAGGTGGGCGGA TCACCTGAGGTCAGGAGTTCGAGACCATCCTGGCCAGCGTGGTGAAACCCTGTCTCTACTAAAAATACAAAATT AGCTGGGCGTGGTGGCGATGGGTGAGGGGTGAGGGATGAGAATCGCTTGAACCTGGGAGATGGGGGTTGCAGT GGAGGTGGAGGTTGCAGTGAGCCGAGATCACCATTGCACTCCAGCCTGGGCAACAAGAGCCAAAACTCTGTCTC

CGCTGTCGCCGCCAGTAGCAGCCTTCGCCAGCAGCGCCGCGGCGGAACCGGGCGCAGGGGAGCCAGGCCCCC GCCAGCCCAGCCCAGCCCTACTCCCTCCCACGCCAGGCAGCAGCCGTTGCTCAGAGAGAAGGTGGAGG AAGAAATCCAGACCCTAGCACGCGCGCACCATCATGCACCATTATGATTCTCAGCAAACCAACGATTACATGCAG CCAGAAGAGGACTGGGACCGGGACCTGCTCCTGGACCCGGCCTGGGAGAAGCAGCAGAGAAAGACATTCACGGCA TGGTGTAACTCCCACCTCCGGAAGGCGGGGACACAGATCGAGAACATCGAAGAGACTTCCGGGATGGCCTGAAG CTCATGCTGCTGGAGGTCATCTCAGGTGAACGCTTGGCCAAGCCAGAGCGAGGCAAGATGAGAGTGCACAAG ATCTCCAACGTCAACAAGGCCCTGGATTTCATAGCCAGCAAAGGCGTCAAACTGGTGTCCATCGGAGCCGAAGAA ATCGTGGATGGGAATGTGAAGATGACCCTGGGCATGATCTGGACCATCATCCTGCGCTTTGCCATCCAGGACATC TCCGTGGAAGAGACTTCAGCCAAGGAAGGGCTGCTCCTGTGGTGTCAGAGAAAGACAGCCCCTTACAAAAATGTC AACATCCAGAACTTCCACATAAGCTGGAAGGATGGCCTCGGCTTCTGTGCTTTGATCCACCGACACCGGCCCGAG TACCTGGACATCCCCAAGATGCTGGATGCCGAAGACATCGTTGGAACTGCCCGACCGGATGAGAAAGCCATCATG ACTTACGTGTCTAGCTTCTACCACGCCTTCTCTGGAGCCCAGAAGGCGGAGACAGCCAATCGCATCTGCAAG GTGTTGGCCGTCAACCAGGAGAACGAGCAGCTTATGGAAGACTACGAGAAGCTGGCCAGTGATCTGTTGGAGTGG GACTICCGGGACTACCGGCGCCTGCACAAGCCGCCCAAGGTGCAGGAGAAGTGCCAGCTGGAGATCAACTTCAAC ACGCTGCAGACCAAGCTGCGCTCAGCAACCGGCCTTCATGCCCTCTGAGGGCAGGATGGTCTCGGACATC AACAATGCCTGGGGCTGCCTGGAGCAGGTGGAGAAGGGCTATGAGGAGTGGTTGCTGAATGAGATCCGGAGGCTG GCCATGCTGCGACAGAAGGACTATGAGACCGCCACCCTCTCGGAGATCAAGGCCCTGCTCAAGAAGCATGAGGCC TTCGAGAGTGACCTGCCCACCAGGACCGTGTGGAGCAGATTGCCGCCATCGCACAGGAGCTCAATGAGCTG GACTATTATGACTCACCCAGTGTCAACGCCCGTTGCCAAAAGATCTGTGACCAGTGGGACAATCTGGGGGCCCTA ACTCAGAAGCGAAGGGAAGCTCTGGAGCGGACCGAGAAACTGCTGGAGACCATTGACCAGCTGTACTTGGAGTAT GCCAAGCGGGCTGCACCCTTCAACAACTGGATGGAGGGGCCATGGAGGACCTGCAGGACACCTTCATTGTGCAC CGCCTGGCCATCCTGGGCATCCACAATGAGGTGTCCAAGATTGTCCAGACCTACCACGTCAATATGGCGGGCACC AACCCCTACACACCATCACGCCTCAGGAGATCAATGGCAAATGGGACCACGTGCGCAGCTGGTGCCTCGGAGG GACCAAGCTCTGACGGAGGAGCATGCCCGACAGCAGCACAATGAGAGGCTACGCAAGCAGTTTGGAGCCCAGGCC AATGTCATCGGGCCCTGGATCCAGACCAAGATGGAGGAGCATCGGGAGGATCTCCATTGAGATGCATGGGACCCTG GAGGACCAGCTCAGCCACCTGCGGCAGTATGAGAAGAGCATCGTCAACTACAAGCCAAAGATTGATCAGCTGGAG GTGGGCTGGGAGCAGCTGCTCACCACCATCGCCAGGACCATCAATGAGGTAGAGAACCAGATCCTGACCCGGGAT GCCAAGGGCATCAGCCAGGAGCAGATGAATGAGTTCCGGGCCTCCTTCAACCACTTTGACCGGGATCACTCCGGC ACACTGGGTCCCGAGGAGTTCAAAGCCTGCCTCATCAGCTTGGGTTATGATATTGGCAACGACCCCCAGGGAGAA GCAGAATTTGCCCGCATCATGAGCATTGTGGACCCCCAACCGCCTGGGGGTAGTGACATTCCAGGCCTTCATTGAC AAGAACTACATTACCATGGACGAGCTGCGCCGCGAGCTGCCACCCGACCAGGCTGAGTACTGCATCGCGCGGATG GCCCCTACACCGGCCCCGACTCCGTGCCAGGTGCTCTGGACTACATGTCCTTCTCCACGGCGCTGTACGGCGAG AGTGACCTCTAATCCACCCGGCCGGCCGCCCTCGTCTTGTGCGCCGTGCCCTGCCTTGCACCTCCGCCGTCGCC CATCTCCTGCCTGGGTTCGGTTTCAGCTCCCAGCCTCCACCCGGGTGAGCTGGGGCCCACGTGGCATCGATCCTC CTACATATTTATTATAGAAAAAGTATTTTTTCTCCACCAGACAAATGGAAAAAAAGGGAAAGATTAACTATTT GCACCGAAATGTCTTGTTTGTTGCGACATAGGAAAATAACCAAGCACAAAGTTATATTCCATCCTTTTTACTGA GGTAGGGGGTACTCTTGTCAAAAGGCACATTGGTGCGTGTGTTTTGCTAGCTCACTTGTCCATGAAAATATTTT ATGATATTAAAGAAAATCTTTTG

#### 4381/6881 FIGURE 4041

MDHYDSQQTNDYMQPEEDWDRDLLLDPAWEKQQRKTFTAWCNSHLRKAGTQIENIEEDFRDGLKLMLLLEVISGE RLAKPERGKMRVHKISNVNKALDFIASKGVKLVSIGAEEIVDGNVKMTLGMIWTIILRFAIQDISVEETSAKEGL LLWCQRKTAPYKNVNIQNFHISWKDGLGFCALIHRHRPELIDYGKLRKDDPLTNLNTAFDVAEKYLDIPKMLDAE DIVGTARPDEKAIMTYVSSFYHAFSGAQKAETAANRICKVLAVNQENEQLMEDYEKLASDLLEWIRRTIPWLENR VPENTMHAMQQKLEDFRDYRRLHKPPKVQEKCQLEINFNTLQTKLRLSNRPAFMPSEGRMVSDINNAWGCLEQVE KGYEEWLLNEIRRLERLDHLAEKFRQKASIHEAWTDGKEAMLRQKDYETATLSEIKALLKKHEAFESDLAAHQDR VEQIAAIAQELNELDYYDSPSVNARCQKICDQWDNLGALTQKRREALERTEKLLETIDQLYLEYAKRAAPFNNWM EGAMEDLQDTFIVHTIEEIQGLTTAHEQFKATLPDADKERLAILGIHNEVSKIVQTYHVNMAGTNPYTTITPQEI NGKWDHVRQLVPRRDQALTEEHARQQHNERLRKQFGAQANVIGPWIQTKMEEIGRISIEMHGTLEDQLSHLRQYE KSIVNYKPKIDQLEGDHQLIQEALIFDNKHTNYTMEHIRVGWEQLLTTIARTINEVENQILTRDAKGISQEQMNE FRASFNHFDRDHSGTLGPEEFKACLISLGYDIGNDPQGEAEFARIMSIVDPNRLGVVTFQAFIDFMSRETADTDT ADQVMASFKILAGDKNYITMDELRRELPPDQAEYCIARMAPYTGPDSVPGALDYMSFSTALYGESDL

1

# 4382/6881 FIGURE 4042

GCCTGCTGCCGCCTGGGCCCCGAGCGGAGCTAGCGCCGCGCGCAGAGCACACGCTCGCGCTCCAGCTCCCCT  ${\tt CCTGCGCGGTTCATGACTGTGTCCCCTGACCGCAGCCTCTGCGAGCCCCCGCCGCAGGACCACGGCCCGCTCCCC}$ GCCGCCGCGAGGCCCCGAGCGAAGGAAGGAAGGGAGGCGCGCTGTGCGCCCCGCGGAGCCCGCGAACCCCGCTC GCTGCCGGCTGCCCAGCCTGGCACCATCCTGCCCGCGCGCTGCCCCCTGCTCACGCCCCACTTGCTGC TGGTGTTGGTGCAGCTGTCCCCTGCTCGCGGCCACCGCACCACAGGCCCCAGGTTTCTAATAAGTGACCGTGACC CACAGTGCAACCTCCACTGCTCCAGGACTCAACCCAAACCCATCTGTGCCTCTGATGGCAGGTCCTACGAGTCCA GCCAGAGCAAGTGTCGCCTGGAGCGGGCTCAAGCCCTGGAGCCAAGCCAAGAAGCCTCAGGAAGCTGTGTTTGTCC CAGAGTGTGGCGAGGATGGCTCCTTTACCCAGGTGCAGTGCCATACTTACACTGGGTACTGCTGGTGTGTCACCC CGGATGGGAAGCCCATCAGTGGCTCTTCTGTGCAGAATAAAACTCCTGTATGTTCAGGTTCAGTCACCGACAAGC CCTTGAGCCAGGGTAACTCAGGAAGGAAAGATGACGGGTCTAAGCCGACACCCACGATGGAGACCCAGCCGGTGT TCGATGGAGATGAAATCACAGCCCCAACTCTATGGATTAAACACTTGGTGATCAAGGACTCCAAACTGAACAACA CCAACATAAGAAATTCAGAGAAAGTCTATTCGTGTGACCAGGAGAGGCCAGAGTGCCCTGGAAGAGGCCCAGCAGA ATCCCCGTGAGGGTATTGTCATCCCTGAATGTGCCCCTGGGGGACTCTATAAGCCAGTGCAATGCCACCAGTCCA GTTGTGAGAGCGACGCCAAGACTACAGAGGCGGATGACCCCTTCAAGGACAGGGAGCTACCAGGCTGTC  ${\tt CAGAAGGGAAAAATGGAGTTTATCACCAGCCTACTGGATGCTCTCACCACTGACATGGTTCAGGCCATTAACT}$ CAGCAGCGCCCACTGGAGGTGGGAGGTTCTCAGAGCCAGACCCCAGCCACACCCTGGAGGAGCGGGTAGTGCACT GGTATTTCAGCCAGCTGGACAGCAATAGCAGCAACGACATTAACAAGCGGGAGATGAAGCCCTTCAAGCGCTACG TGAAGAAGCCCAAGCCCAAGAAATGTGCCCGGCGTTTCACCGACTACTGTGACCTGAACAAAGACAAGGTCA  $\tt TTTCACTGCCTGAGGCTGAAGGGCTGCCTGGGTGTTAGCAAAGAAGGACGCCTCGTC\underline{TAA}_{\tt GGAGCAGAAAACCCAA}$ GGGCAGGTGGAGAGTCCAGGGAGGCAGGATGGATCACCAGACACCTAACCTTCAGCGTTGCCCATGGCCTGCCA TTCATTTTAAAACACCAATATCTAATACCACAGTGGGAAAAGGAAAGGGAAGAAGACTTTATTCTCTCTTAT TGTAAGTTTTTGGATCTGCTACTGACAACTTTTAGAGGGTTTTGGGGGGGTGGGGGAGGGTGTTGTTGGGGCCTG AGAAGAAAGAGATTTATATGCTGTATATAAATATATATGTAAATTGTATAGTTCTTTTGTACAGGCATTGGCATT GCTGTTTGTTTATTTCTCCCCTCTGCCTGCTGGGGTGGTGGGCACTCTGGACACATAGTCCAGCTTTCTAAAA TCCAGGACTCTATCCTGGGCCTACTAAACTTCTGTTTGGAGACTGACCCTTGTGTATAAAGACGGGAGTCCTGCA ATTGTACTGCGGACTCCACGAGTTCTTTTCTGGTGGGAGGACTATATTGCCCCCATGCCATTAGTTGTCAAAATTG ATAAGTCACTTGGCTCTCGGCCTTGTCCAGGGAGGTTGGGCTAAGGAGATGGAAACTGCCCTGGGAGAGGAAG GGAGTCCAGATCCCATGAATAGCCCACACAGGTACCGGCTCTCAGAGGGTCCGTGCATTCCTGCTCTCCGGACCC CCAAAGGCCCAGCATTGGTGGGTGCACCAGTATCTTAGTGACCCTCGGAGCAAATTATCCACAAAGGATTTGCA TTACGTCACTCGAAACGTTTTCATCCATGCTTAGCATCTACTCTGTATAACGCATGAGAGGGGAGGCAAAGAAGA AAAGGACACGGAAGGGCCTTTAAAAAAGTAGATATTTAATATCTAAGCAGGGGAGGGGACAGGACAGAAAGCC TGCACTGAGGGGTGCGGTGCCAACAGGGAAACTCTTCACCTCCCTGCAAACCTACCAGTGAGGCTCCCAGAGACG CAGCTGTCTCAGTGCCCAGGGGCAGATTGGGTGTGACCTCTCCA

# 4383/6881 FIGURE 4043

MLPARCARLLTPHLLLVLVQLSPARGHRTTGPRFLISDRDPQCNLHCSRTQPKPICASDGRSYESMCEYQRAKCR DPTLGVVHRGRCKDAGQSKCRLERAQALEQAKKPQEAVFVPECGEDGSFTQVQCHTYTGYCWCVTPDGKPISGSS VQNKTPVCSGSVTDKPLSQGNSGRKDDGSKPTPTMETQPVFDGDEITAPTLWIKHLVIKDSKLNNTNIRNSEKVY SCDQERQSALEEAQQNPREGIVIPECAPGGLYKPVQCHQSTGYCWCVLVDTGRPLPGTSTRYVMPSCESDARAKT TEADDPFKDRELPGCPEGKKMEFITSLLDALTTDMVQAINSAAPTGGGRFSEPDPSHTLEERVVHWYFSQLDSNS SNDINKREMKPFKRYVKKKAKPKKCARRFTDYCDLNKDKVISLPELKGCLGVSKEGRLV

# 4384/6881 FIGURE 4044

AAGATGCCGAAAGGAAAGAAGGCCAAGGGAAAGAAGGTGGCTCCGGCCCCAGCTGTCGTGAAGAAGCAGGAGGCT
AAGAAAGTGGTGAATCCCCTGTTTGAGAAAAGGCCTAAGAATTTTGGCATTGGACAGGACATCCAGCCCAAAAGA
GACCTCACCCGCTTTGTGAAATGGCCCCGCTATATCAGGTTGCAGCGGCAGAGAGCCATCCTCTATAAGCGGCTG
AAAGTGCCTCCTGCGATTAACCAGTTCACCCAGGCCCTGGACCGCCAAACAGCTACTCAGCTGCTTAAGCTGGCC
CACAAGTACAGGCCAGAGACAAAGCAAGAGAAAGCAGAGACTGTTGGCCCGGGCCGAGAAGAAAGCTGCTGGC
AAAGGGGACGTCCCGAAGAAGAAGAAAGCACCTGTCCTTCGAGCAGGAGTTAACACTGTCACCACCTTGGTGGAGAAC
AAGAAAGCTCAGCTGGTGGTGATTTCACACGACATGGATCCCATCGAGGGGGAAGGCAAGACTGGGACGTCTAGT
CCACAGGAAGACCTGCACCACTGTCGCCTTCACACAGGTGAACTCAGAAGACAAAGGCGCTTTGGCTAAGCTGGT
GGAAGCTATCAGGACCAATTACAATGACAGATACGATGAGATCCGCCGTCACTGGGGTGGCAATGTCCTGGGTCC
TAAGTCTGTGGCTCGTATCGCCAAGCGCAAAAAGGCAAAAGGCTAAAGAACTTGCCACTAAACTGGGTTAAATGTA
CACTGTTGAGTTTTCTGTACATAAAAATAATTAAAATAATACAAATTTTCCTT

# FIGURE 4045

AGTATTTCTATACAGTTGCTCCAATGACAGAGTTACCTGCACCGTTGTCCTACTTCCAGAATGCACAGATGTCTG AGGACAACCACCTGAGCAATACTGTACGTAGCCAGAATGACAATAGAGAACGGCAGGAGCACAACGACAGACGGA GCCTTGGCCACCCTGAGCCATTATCTAATGGACGACCCCAGGGTAACTCCCGGCAGGTGGTGGAGCAAGATGAGG AAGAAGATGAGGAGCTGACATTGAAATATGGCGCCAAGCATGTGATCATGCTCTTTTGTCCCTGTGACTCTCTGCA TGGTGGTGGTCGTGGCTACCATTAAGTCAGTCAGCTTTTATACCCGGAAGGATGGGCAGCTAATCTATACCCCAT TCACAGAAGATACCGAGACTGTGGGCCAGAGAGCCCTGCACTCAATTCTGAATGCTGCCATCATGATCAGTGTCA TTGTTGTCATGACTATCCTCCTGGTGGTTCTGTATAAATACAGGTGCTATAAGGTCATCCATGCCTGGCTTATTA TATCATCTCTATTGTTGCTGTTCTTTTTTTCATTCATTTACTTGGGGGAAGTGTTTAAAACCTATAACGTTGCTG TGGACTACATTACTGTTGCACTCCTGATCTGGAATTTTGGTGTGGGGAATGATTTCCATTCACTGGAAAGGTC CACTTCGACTCCAGCAGGCATATCTCATTATGATTAGTGCCCTCATGGCCCTGGTGTTTATCAAGTACCTCCCTG AATGGACTGCGTGGCTCATCTTGGCTGTGATTTCAGTATATGATTTAGTGGCTGTTTTTGTGTCCGAAAGGTCCAC TTCGTATGCTGGTTGAAACAGCTCAGGAGAGAAATGAAACGCTTTTTCCAGCTCTCATTTACTCCTCAACAATGG TGTGGTTGGTGAATATGGCAGAAGGAGACCCGGAAGCTCAAAGGAGAGTATCCAAAAATTCCAAGTATAATGCAG AAAGCACAGAAAGGGAGTCACAAGACACTGTTGCAGAGAATGATGATGGCGGGTTCAGTGAGGAATGGGAAGCCC AGAGGGACAGTCATCTAGGGCCTCATCGCTCTACACCTGAGTCACGAGCTGCTGTCCAGGAACTTTCCAGCAGTA TCCTCGCTGGTGAAGACCCAGAGGAAAGGGGAGTAAAACTTGGATTGGGAGATTTCATTTTCTACAGTGTTCTGG TTGGTAAAGCCTCAGCAACAGCCAGTGGAGACTGGAACACAACCATAGCCTGTTTCGTAGCCATATTAATTGGTT TGTGCCTTACATTATTACTCCTTGCCATTTTCAAGAAAGCATTGCCAGCTCTTCCAATCTCCATCACCTTTGGGC TTGTTTTCTACTTTGCCACAGATTATCTTGTACAGCCTTTTATGGACCAATTAGCATTCCATCAATTTTATATCT AGCATATTTGCGGTTAGAATCCCATGGATGTTTCTTCTTTTGACTATAACAAAATCTGGGGAGGACAAAGGTGATT CCTTGCACTATTGGACTTTTGGAAGGAGGTGCCTATAGAAAACGATTTTGAACATACTTCATCGCAGTGGACTGTG TCCCTCGGTGCAGAAACTACCAGATTTGAGGGACGAGGTCAAGGAGATATGATAGGCCCGGAAGTTGCTGTGCCC CATCAGCAGCTTGACGCGTGGTCACAGGACGATTTCACTGACACTGCGAACTCTCAGGACTACCGTTACCAAGAG GTTAGGTGAAGTGGTTTAAACCAAACGGAACTCTTCATCTTAAACTACACGTTGAAAATCAACCCAATAATTCTG TATTAACTGAATTCTGAACTTTTCAGGAGGTACTGTGAGGAAGAGCAGCACCAGCAGCAGCAGAATGGGGAATGGAG AGGTGGGCAGGGTTCCAGCTTCCCTTTGATTTTTTGCTGCAGACTCATCCTTTTTAAATGAGACTTGTTTTCCC CTCTCTTTGAGTCAAGTCAAATATGTAGATTGCCTTTGGCAATTCTTCTCTCAAGCACTGACACTCATTACCGT CTGTGATTGCCATTTCTTCCCAAGGCCAGTCTGAACCTGAGGTTGCTTTATCCTAAAAGTTTTAACCTCAGGTTC CAAATTCAGTAAATTTTGGAAACAGTACAGCTATTTCTCATCAATTCTCATGATGTTGAAGTCAAATTTTGGATT TTCCACCAAATTCTGAATTTTGTAGACATACTTGTACGCTCACTTGCCCCAGATGCCTCCTCTGTCCTCATTCTTC TCTCCCACACAGCAGTCTTTTTCTACAGCCAGTAAGGCAGCTCTGTCGTGGTAGCAGATGGTCCCATTATTCTA GGGTCTTACTCTTTGTATGAAAAGAATGTGTTATGAATCGGTGCTGTCAGCCCTGCTGTCAGACCTTCTTCC ACAGCAAATGAGATGTATGCCCAAAGACGGTAGAATTAAAGAAGAGTAAAATGGCTGTTGAAGC

GGCACGAGGTAGCTTTCCAACATAAAGTGGAGGTTTCAACACAGGAGACTTTAAGCAAGTTCCAGTGTGTCTAT ATTTGGTCTGGCTGATCGGCTGGACTCTGGCCTTCCCCGCTCACGTTAGCAGACAGCTCTGCCCTAGTGGGCGCT TGAATTCAAAATGGCCTCATCTCCTGCTGTCCTTCGAGCGTCCCGGCTGTACCAATGGAGCCTGAAGAGTTCGGC GCAGTTCCTGGGGTCTCCACAGCTGAGGCAGGTTGGTCAGATCATTAGGGTTCCTGCTCGGATGGCGGCGACGCT GATCCTGGAGCCTGCGGGCCGCTGCTGCGGGACGAACCGGTGCGAATCGCCGTGCGCGCCTAGCCCCGGAGCA GCCGGTCACGCTGCGCGCGTCCCTGCGCGACGAGAAGGGCGCGCTTTTCCAGGCCCACGCGCGCTACCGCGCCGA CACTCTTGGCGAGCTGGACCTGGAGCGCGCGCGCGCTGGGCGGCAGCTTCGCGGGGCTTGAGCCCATGGGGCT GCTCTGGGCCTTGGAGCCCGAGAAACCTTTGGTGCGGCTGGTGAAGCGCGACGTGCGAACGCCCTTGGCCGTGGA GCTGGAGGTGCTGGATGGCCACGACCCCGGCCGGCTGCTGTGCCAGACGCGCACGAGCGCTACTTCCT CCCGCCGGGGTGCGGCGGGCCGGTGCGCGTGGGCCGGGTGCGAGGCACGCTCTTCCTGCCGCCAGAACCTGG GAAGGGTTTTGCTGTGATGGCTCTGGCTTATTATAACTATGAAGACCTCCCCAAGACCATGGAGACGCTCCATCT GGAGTACTTTGAAGAAGCCATGAACTACTTGCTCAGTCATCCCGAGGTAAAAGGTCCAGGAGTTGGGCTGCTTGG AATTTCCAAAGGGGTGAGCTCTGCCTTTCCATGGCCTCTTTCCTGAAGGGCATCACGGCTGCTGTCGTCATCAA CGGCTCTGTGGCCAATGTTGGGGGAACCTTACGCTACAAGGGCGAGACCCTGCCCCCTGTGGGCGTCAACAGAAA TCGCATCAAGGTGACCAAAGATGGCTATGCAGACATTGTGGATGTCCTGAACAGCCCTTTGGAAGGACCTGACCA GAAGAGCTTCATTCCTGTGGAAAGGGCAGAGAGCACCTTCCTGTTCCTGGTAGGTCAGGATGACCACAACTGGAA GAGTGAGTTCTATGCTAATGAGGCCTGTAAACGCTTGCAGGCCCATGGGAGAGAAAGCCCCAGATCATCTGTTA CCCAGAGACAGGCCACTATATTGAGCCTCCTTACTTCCCCCTGTGTCGGGCTTCCCTGCATGCCTTGGTGGGCAG TCCTATTATCTGGGGAGGGGAGCCCAGGGCTCATGTCATGGCTCAGGTGGATGCTTGGAAACAACTCCAGACTTT CTTCCACAAACACTTGGGTGGCCACGAGGGGACAATCCCATCAAAAGTGTAAATTTTATTTGATCATGTGGCCTC 

# 4387/6881 FIGURE 4047

MSNKLLSPHPHSVVLRSEFKMASSPAVLRASRLYQWSLKSSAQFLGSPQLRQVGQIIRVPARMAATLILEPAGRC CWDEPVRIAVRGLAPEQPVTLRASLRDEKGALFQAHARYRADTLGELDLERAPALGGSFAGLEPMGLLWALEPEK PLVRLVKRDVRTPLAVELEVLDGHDPDPGRLLCQTRHERYFLPPGVRREPVRVGRVRGTLFLPPEPGPFPGIVDM FGTGGGLLEYRASLLAGKGFAVMALAYYNYEDLPKTMETLHLEYFEEAMNYLLSHPEVKGPGVGLLGISKGGELC LSMASFLKGITAAVVINGSVANVGGTLRYKGETLPPVGVNRNRIKVTKDGYADIVDVLNSPLEGPDQKSFIPVER AESTFLFLVGQDDHNWKSEFYANEACKRLQAHGRRKPQIICYPETGHYIEPPYFPLCRASLHALVGSPIIWGGEP RAHVMAQVDAWKQLQTFFHKHLGGHEGTIPSKV

#### 4388/6881 FIGURE 4048

# 4389/6881 FIGURE 4049

MRFLAATFLLLALSTAAQAEPVQFKDCGSVDGVIKEVNVSPCPTQPCQLSKGQSYSVNVTFTSNIQSKSSKAVVH GILMGVPVPFPIPEPDGCKSGINCPIQKDKTYSYLNKLPVKSEYPSIKLVVEWQLQDDKNQSLFCWEIPVQIVSH t.

# 4390/6881 FIGURE 4050A

GCTACACCTCCTCCAGGAATACCTCCCCCTGGAGTTCCACAAGGGATACCTCCTCAGTTAACAGCAGCCCCAGTT CCACCAGCCTCCAGTTCACAGAGCTCGCAAGTTCCAGAGAAACCTAGACCAGCACTGCTTCCTACTCCTGTGTCT TTTGGTTCTGCCCCACCGACAACTTACCATCCTCCGTTGCAATCAGCTGGTCCATCAGAACAAGTGAATTCAAAA GCTCCTTTGAGCAAGTCTGCTCTGCCATACAGTTCATTCTCATCTGATCAAGGACTTGGGGAGTCTTCAGCTGCT CCATCTCAGCCAATCACTGCAGTGAAGGACATCCCAGTGAGATCAGGTGGCCTGCTTCCAGATCCTCCTAGAAGT AGTTACTTGGAAAGTCCAAGAGGCCCAAGATTTGATGGTCCTCGAAGATTTGAGGATTTAGGGTCAAGGTGTGAA GGACCGAGACCCAAAGGGCCTCGTTTTGAAGGAAATCGCCCCGATGGGCCAAGACCCAGATATGAAGGTCACCCA GCAGAGGGCACTAAAAGCAAGTGGGGAATGATTCCCCGGGGGCCAGCATCTCAATTTTATATTACCCCCAGTACA TCCCTAAGTCCTCGACAGAGTGGACCACAGTGGAAAGGCCCCAAACCAGCTTTTGGACAGCAGCATCAGCAGCAA CCTAAGTCACAAGCAGAACCTCTTTCAGGAAACAAAGAACCATTAGCAGACACCAGTAGTAACCAGCAGAAGAAT TTTAAAATGCAATCAGCTGCATTTTCCATTGCTGCAGATGTAAAGGATGTCAAGGCGGCTCAGTCAAATGAGAAT CTAAGCGACTCTCAACAAGAGCCACCTAAAAGTGAAGTCTCGGAAGGGCCCGTAGAGCCCTCTAATTGGGACCAG AATGTTCAAAGTATGGAGACTCAAATCGACAAAGCCCAAGCTGTTACTCAGCCTGTACCCCTTGCGAATAAGCCT GTACCTGCTCAATCTACTTTTCCTTCAAAAACAGGGGGGGTGGAGGAGGAACAGCAGTAGCAACATCATCATTA CGGCCAGATAATAGAGATAATAGATTAGAAGGCAATAGAGGCAACAGCTCATCTTACAGAGGTCCTGGGCAAAGC AGAATGGAAGACACGGGATAAAGGTCTAGTAAACAGAGGTCGCGGCCAGGCAATCAGTCGAGGCCCAGGATTG GTCAAGCAAGAAGACTTTCGGGATAAGATGATGGGTAGAAGAGAAGATAGTCGAGAGAAGATGAACAGAGGAGAA GGTAGCCGGGACAGAGGGTTGGTGAGGCCTGGAAGCAGTCGGGAGAAAGTGCCAGGTGGTCTTCAAGGGAGCCAG GACAGGGGTGCAGCTGGCAGCCGAGAAAGGGGACCACCTCGGAGGGCTGGCAGTCAGGAGAGGGGACCTCTTCGA AGTCGAGAAAGGGGACTGGGAAGATCAGATTTTGGTCGTGATAGAGGTCCATTCAGACCAGAACCAGGAGATGGT GGGGAAAAAATGTATCCATATCACCGGGATGAGCCTCCTAGGGCTCCATGGAACCATGGAGAGGAGGGGGCAT TGGAGAATGTGAACGTGACTATCAAGATGATACACTAGAGCTCTATAACAGAGAGACAGGTTCTCAGCACCA GACTACAATAGGGAAATGGAAAGGGACATGGACAGGGATGTGGATCGGATTTCAAGACCTATGGATATGAT AGAAGTTTGGATAATGAGTGGGACAGAGATTATGGGAGACCACTGGATGAACAAGAATCACAGTTTCGTGAACGG AGAGAAGAAAGAAATCGAGAGCATGGGTATGATCGAGATTTCCGTGATAGGGGTTGAGTTGAGGATTCGAGAGTAT CCAGAAAGAGGAGATACATGGCGGGAAAAGCGAGATTATGTTCCTGACAGAATGGACTGGGAAAGAGAACGGTTG TCAGACAGATGGTACCCATCTGATGTGGATAGACATTCCCCCATGGCGGAACATATGCCCTCCTCACATCATTCC **AAAGACTTCGGGTCTGAGCCACAGATGGCTGACCATCTACCACCTCAGGAATCAAGATTGCAGAATACATCTTCA** AGACCTGGAATGTATCCGCCTCCAGGGTCGTATAGACCTCCCCCTCCTATGGGCAAACCACCAGGTTCAATTGTA AGACCCTCTGCTCCACCAGCAAGATCATCTGTTCCTGTGACCAGGCCACCTGTCCCAATACCACCACCTCCACCT CCTCCACCTCTCCCCCCCCCCAGTGATAAAGCCACAAACTTCAGCTGTAGAACAGGAACGATGGGATGAA GATTCTTTCTATGGGCTCTGGGATACAAATGATGAACAAGGACTGAATTCAGAATTTAAGTCAGAAACTGCAGCA ATTCCATCTGCTCCAGTATTACCACCCCCACCTGTTCACTCTTCCATTCCCCCTCCTGGCCCAGTGCCTATGGGT ATGCCACCAATGTCCAAGCCACCACCAGTACAACAGACTGTTGATTATGGCCATGGCCGAGATATATCCACTAAT AAAGTTGAACAGATACCTTATGGAGAAAGAATAACTCTACGCCCAGATCCACTACCTGAAAGATCAACTTTTGAG ACAGAGCATGCAGGCCAACGTGATCGTTATGATAGAGAAAGAGATCGTGAGCCTTATTTTGATCGTCAAAGTAAT GTCATAGCAGATCATCGAGATTTTAAAAGGGATCGTGAGACACATAGAGATCGAGACCGGGATCGTGGTGTTATT GACTATGACCGGGATCGATTTGACAGAGAACGCCGACCCCGAGATGATAGAGCTCAGTCATATCGAGACAAAAAA GGACCATCCATGTTTGGAGGAGAACGAAGGACTTATCCTGAGGAGCGAATGCCTCTGCCAGCTCCTTCACTGAGC CACCAGCCTCCTCCAGCTCCACGAGTCGAGAAGAAGCCTGAATCAAAGAATGTGGACGATATTTTGAAACCACCG

#### 4391/6881 FIGURE 4050B

GGCCGGGAGAGCAGCCTGAGAGAATTGTTGTTATAATGAGAGGATTACCTGGCAGTGGAAAGACACATGTTGCA AAACTTATTCGAGATAAGGAGGTAGAATTTGGAGGACCTGCACCCAGAGTTCTAAGCCTGGATGATTACTTCATC ACTGAAGTGGAAAAAGAAGAAAAAGATCCAGATTCTGGAAAGAAGTGAAAAAGAAGGTAATGGAATATGAATAT GAAGCTGAGATGGAGAGACTTACCGCACCAGCATGTTCAAAACTTTCAAAAAGACTCTGGATGATGGCTTTTTT CCCTTCATCATCCTGGATGCCATCAATGACAGAGTTAGGCATTTTGACCAGTTTTGGAGTGCAGCAAAAACCAAG GGATTTGAGGTATATTTGGCTGAAATGAGTGCAGATAACCAGACTTGTGGCAAGAGAAATATTCATGGAAGAAAG CTTAAAGAAATAAATAAGATGGCTGATCACTGGGAAACTGCACCTCGTCACATGATGCGTCTAGATATTCGTTCT TTGCTGCAAGATGCTGCTATTGAAGAGGTAGAGATGGAAGATTTTGATGCAAATATCGAAGAACAGAAGAAGAA AAATTCTTAAAGAAGGTTTAAATTCAGATCTGTGGTTAGACAACTACTGTTGATATACACTTTAGTGGTAAAAGT TTCCATAATCATCTTCAAGGAGACTTTTGGATACTCTTTATTTTTCCCCAGACCAAAAGAACCCTCTAATGTGGT TATACCTTTTAAGAAAATCAATTACATATGAAAGGGCATTCTTACATTCCAGCAGATATGTGGCACAGCCTACCC AACATATGCATAATTGTCTCTTCTTTGCTACAAGATCTCCAAATTTGAGTTTCTGTCAACAGAGGCAGAAGAACT TATTGAATGGGGAGGCAGAGGGTTGCCACTGGCTGCTAGATTTGTTCTTCTGCATTTTATCCTAAGTGACGGGGA  ${\tt AAAATTAAATGACTGTGTAGGCAATGGATTTTGCTCAGGCTGATTAGAGGCTTACATAGTGTGAGTTTAAAGTTT}$ CTGTGTACCTAATGTAAAATGCTTTCGATCACACCTCTGTAGAGATGTTTGCCTTTCCCTGTCATTCAAGAATAT GCGACCTATAGAGTTACGTTGACTTTTCAGTGTTTACTGAAGTACAGAGATTAGCAATGCCTTGGAATAGTGTTG CTTTTTAAATCCAGAATATTACTCGGTTTATTTAATACTTGAGCCCTTGCTAAAGTTGCTCCTCATATTCTTTTG AAAATGTACAAAATGAGAACTCTGATTCCTACCCCCTAGAGTATACAGAATCTCCAGGGAGTGGTCCCATCGAAC CCGTGTGTGATATAGAGGACTCTTGATAAAAACTGTGTTTATATAAAGATGGTGTCAACCTCTACATTCCAAGAT TTCAAATGTGGATTAAAAAAATAAGTTTTAAAGT

#### 4392/6881 FIGURE 4051

 ${\tt MPVRSGGLLPDPPRSSYLESPRGPRFDGPRRFEDLGSRCEGPRPKGPRFEGNRPDGPRPRYEGHPAEGTKSKWGM}$ IPRGPASQFYITPSTSLSPRQSGPQWKGPKPAFGQQHQQQPKSQAEPLSGNKEPLADTSSNQQKNFKMQSAAFSI  ${\tt AADVKDVKAAQSNENLSDSQQEPPKSEVSEGPVEPSNWDQNVQSMETQIDKAQAVTQPVPLANKPVPAQSTFPSK}$  ${\tt TGGMEGGTAVATSSLTADNDFKPVGIGLPHSENNQDKGLPRPDNRDNRLEGNRGNSSSYRGPGQSRMEDTRDKGL}$ VNRGRGQAISRGPGLVKQEDFRDKMMGRREDSREKMNRGEGSRDRGLVRPGSSREKVPGGLQGSQDRGAAGSRER  ${\tt GPPRRAGSQERGPLRRAGSRERIPPRRAGSRERGPPRGPGSRERGLGRSDFGRDRGPFRPEPGDGGEKMYPYHRD}$ EPPRAPWNHGEERGHEEFPLDGRNAPMERERLDDWDRERYWRECERDYQDDTLELYNREDRFSAPPSRSHDGDRR GPWWDDWERDQDMDEDYNREMERDMDRDVDRISRPMDMYDRSLDNEWDRDYGRPLDEQESOFRERDIPSLPPLPP LPPLPPLDRYRDDRWREERNREHGYDRDFRDRGELRIREYPERGDTWREKRDYVPDRMDWERERLSDRWYPSDVD  $\verb"RHSPMAEHMPSSHHSSEMMGSDASLDSDQGLGGVMVLSQRQHEIILKAAQELKMLREQKEQLQKMKDFGSEPQMA"$ DHLPPQESRLQNTSSRPGMYPPPGSYRPPPPMGKPPGSIVRPSAPPARSSVPVTRPPVPIPPPPPPPPPPPPPP  ${\tt IKPQTSAVEQERWDEDSFYGLWDTNDEQGLNSEFKSETAAIPSAPVLPPPPVHSSIPPPGPVPMGMPPMSKPPPV}$ QQTVDYGHGRDISTNKVEQIPYGERITLRPDPLPERSTFETEHAGQRDRYDRERDREPYFDRQSNVIADHRDFKR DRETHRDRDRDRGVIDYDRDRFDRERRPRDDRAQSYRDKKDHSSSRRGGFDRPSYDRKSDRPVYEGPSMFGGERR TYPEERMPLPAPSLSHQPPPAPRVEKKPESKNVDDILKPPGRESRPERIVVIMRGLPGSGKTHVAKLIRDKEVEF GGPAPRVLSLDDYFITEVEKEEKDPDSGKKVKKKVMEYEYEAEMEETYRTSMFKTFKKTLDDGFFPFIILDAIND RVRHFDQFWSAAKTKGFEVYLAEMSADNQTCGKRNIHGRKLKEINKMADHWETAPRHMMRLDIRSLLQDAAIEEV EMEDFDANIEEQKEEKKDAEEEESELGYIPKSKWEMDTSEAKLDKLDGLRTGTKRKRDWEAIASRMEDYLQLPDD YDTRASEPGKKRVRWADLEEKKDADRKRAIGFVVGQTDWEKITDESGHLAEKALNRTKYI

GGCACGAGGCTGCTGTCTGCGGAGGAAACTGCATCGACGGCCGCCCCAGCTACGGGAGGACCTGGAGTGGCA GGCCTCGGGGCAGCAGTGAGGGAGGCGTCCAGCCCCCACTCAGCTCTTCTCCTCTGTGCCAGGGGCTCCCCGG GGGATGAGCATGGTGGTTTTCCCTCGGAGCCCCCTGGCTCGGGACGTCTGAGAAGATGCCGGTCATGAGGCTGTT CCCTTGCTTCCTGCAGCTCCTGGCCGGCTGCCTGCCTGTGCCCCCCCAGCAGTGGGCCTTGTCTGCTGG GAACGCTCGTCAGAGGTGGAAGTGGTACCCTTCCAGGAAGTGTGGGGCCGCAGCTACTGCCGGGCGCTGGAGAG GCTGGTGGACGTCGTGTCCGAGTACCCCAGCGAGGTGGAGCACATGTTCAGCCCATCCTGTGTCTCCCTGCTGCG CTGCACCGGCTGCTGCGGCGATGAGAATCTGCACTGTGTGCCGGTGGAGACGGCCAATGTCACCATGCAGCTCCT AAAGATCCGTTCTGGGGACCGCCCTCCTACGTGGAGCTGACGTTCTCTCAGCACGTTCGCTGCGAATGCCGGCC TCTGCGGGAGAAGATGAAGCCGGAAAGGAGACCCAAGGGCAGGGGGAAGAGGAGAGAAGCAGAGACC TTCCCTGCTGAATGCCTCCCTTCAAGACGAGGGCAGGGAAGGACAGGACCCTCAGGAATTCAGTGCCTTC AACAACGTGAGAGAAAGAGAGAGCCACCACAGACCCCTGGGAGCTTCCGCTTTGAAAGAAGCAAGACACGTGG GCTACCTGTTCTTGGGCCTCAGGCTCTGCACAGTCAAGCAGCCCTTGCTTTCGGAGCTCCTGTCCAAAAGTAGGG ATGCGGATCCTGCTGGGGCCGCCACGGCCTGGTGGGAAGGCCGGCAGCGGCGGAGGGGATCCAGCCACTT CCCCCTCTTCTGAAGATCAGAACATTCAGCTCTGGAGAACAGTGGTTGCCTGGGGGGCTTTTGCCACTCCTTG TCCCCCGTGATCTCCCCTCACACTTTGCCATTTGCTTGTACTGGGACATTGTTCTTTCCGGCCAAGGTGCCACCA CCCTGCCCCCTAAGAGACACATACAGAGTGGGCCCCGGGCTGGAGAAAGAGCTGCCTGGATGAGAAACAGCTC AGCCAGTGGGGATGAGGTCACCAGGGGAGGAGCCTGTGCGTCCCAGCTGAAGGCAGTGGCAGGGGAGCAGGTTCC CCAAGGGCCCTGGCACCCCCACAAGCTGTCCCTGCAGGGCCATCTGACTGCCAAGCCAGATTCTCTTGAATAAAG 

 ${\tt MPVMRLFPCFLQLLAGLALPAVPPQQWALSAGNGSSEVEVVPFQEVWGRSYCRALERLVDVVSEYPSEVEHMFSPSCVSLLRCTGCCGDENLHCVPVETANVTMQLLKIRSGDRPSYVELTFSQHVRCECRPLREKMKPERRRPKGRGKRREKQRPTDCHLCGDAVPRR}$ 

# 4395/6881 FIGURE 4054

AAAAGCAAGCCAGGAGGTGCTTGCGGCCGCTTCTAGTAGTTTCCAGGCGCTGCCGGGCCGCTGGCACTAAGCGGT CCTGAGGCTGTGGCTACGGCTGCTCCGGAGCTGGTGGCGCCGCGATAGGAGAGCCGATGGCCAAGTGGGGTGAGG CTTCAAATTGGTCCACGGATAAGCTGAAAACACTGTTCTTGGCAGTGCAGGTTCAAAATGAAGAAGGCAAGTGTG AGGTGACGGAAGTGAGTAAGCTTGATGGAGAGGCATCCATTAACAATCGCAAAGGGAAACTTATCTTCTTTTATG AATGGAGCGTCAAACTGAACTGGACAGGTACTTCTAAGTCAGGAGTACAAAGGACATGTGGAGATCCCCA ATTTGTCTGATGAAAACAGCGTGGATGAAGTGGAGATTAGTGTGAGCCTTGCCAAAGATGAGCCTGACACAAATC TCGTGGCCTTAATGAAGGAAGAAGGGGTGAAACTTCTAAGAGAAGCAATGGGAATTTACATCAGCACCCTCAAAA AAACTGAGGAGCGCAAGGCTAAGCCTGCTCCTTCAAAAACCCAGGCCAGACCTGTTGGAGTCAAAATCCCCACTT GTAAGATCACTCTTAAGGAAACCTTCCTGACGTCACCAGAGGGGGCTCTATAGAGTGTTTACCACCCAAGAGCTGG TCTCTGGGGAATTTACTGATCTGGTCCCTGAGAAACATATTGTGATGAAGTGGAGGTTTAAATCTTGGCCAGAGG GACACTTTGCCACCATCACCTTGACCTTCATCGACAAGAACGGAGAGACTGAGCTGTGCATGGAAGGTCGAGGCA TCCCTGCTCCTGAGGAAGAGCGGACACGACAGGGCTGGCAGCGGTACTACTTTGAGGGCATTAAACAGACCTTTG ATACCTTGGGTTTGTGCATGTTTTCTGCTGGGTGGGTTCAGAGGGCAATTTCTCTTTTATGTGTACATATGCTAA **АТАААСАТААТТТААААААСАААА**А

# 4397/6881 FIGURE 4056

MAKWGEGDPRWIVEERADATNVNNWHWTERDASNWSTDKLKTLFLAVQVQNEEGKCEVTEVSKLDGEASINNRKG
KLIFFYEWSVKLNWTGTSKSGVQYKGHVEIPNLSDENSVDEVEISVSLAKDEPDTNLVALMKEEGVKLLREAMGI
YISTLKTEFTQGMILPTMNGESVDPVGQPALKTEERKAKPAPSKTQARPVGVKIPTCKITLKETFLTSPEELYRV
FTTQELVQAFTHAPATLEADRGGKFHMVDGNVSGEFTDLVPEKHIVMKWRFKSWPEGHFATITLTFIDKNGETEL
CMEGRGIPAPEEERTRQGWQRYYFEGIKQTFGYGARLF

PCT/US2003/028547

### 4398/6881 FIGURE 4057

GTAGGAGTCCGCGCAGCCTCCGGGTAAGCCAAGCGCCGCAGTGCTGAGTTCCCGCACGCCGCAGAGCCATGG AGATCGGCACCGAGATCAGCCGCAAGATCCGGAGTGCCATTAAGGGGGAAATTACAAGAATTAGGAGCTTATGTTG ATGAAGAACTICCTGATTACATTATGGTGATGGTGGCCCAACAAGAAAAGTCAGGACCAAATGACAGAGGATCTGT CCCTGTTTCTAGGGAACAACACAATTCGATTCACCGTATGGCTTCATGGTGTATTAGATAAACTTCGCTCTGTTA CAACTGAACCCTCTAGTCTGAAGTCTTCTGATACCAACATCTTTGATAGTAACGTGCCTTCAAACAAGAGCAATT TCAGTCGGGGAGATGAGAGGGAGGCATGAAGCTGCAGTGCCACCTTGCCATTCCTAGCGCGAGACCTGAAAAAA CAACCCGACTAATGTCAACAGTGAAACCTTTGAGGGAGCCAGCACCCTCTGAAGATGTGATTTAAGCCAG  $\texttt{AACCAG} \underline{\textbf{ATG}} \texttt{ATCTCATTGACGAAGACCTCAACTTTGTGCAGGAGAATCCCTTATCTCAGAAAAAAACCTACAGTG}$ ACACTTACATATGGTTCTTCTCGCCCTTCTATTGAAATTTATCGACCACCTGCAAGTAGAAATGCAGATAGTGGT GTTCATTTAAACAGGTTGCAATTTCAACAGCAGCAGAATAGTATTCATGCTGCCAAGCAGCTTGATATGCAGAGT AGTTGGGTATATGAAACAGGACGTTTGTGTGAACCAGAGGTGCTTAACAGCTTAGAAGAAACGTATAGTCCGTTC TTTAGAAACAACTCGGAGAAAATGAGTATGGAGGATGAAAACTTTCGGAAGAAAGTTGCCTGTGGTAAGTTCA GTTGTTAAAGTAAAAAATTCAATCATGATGGAGAAGAGGAGGAAGAAGATGATGATTACGGGTCTCGAACAGGA AGCATCTCCAGCAGTGTGTCTGTGCCTGCAAAGCCTGAAAGGAGACCTTCTCTTCCACCTTCTAAACAAGCTAAC CAGAAACAGACACTTCCAGTTGCTCCCAGAACTCGAACTTCTCAAGAAGAATTGCTAGCAGAAGTGGTCCAGGGA GCTGAGATGAGTGAACTGAGTGTGGCACAGAAACCAGAAAAACTTTTGGAGCGCTGCAAGTACTGGCCTGCTTGT AAAAATGGGGATGAGTGTGCCTACCATCACCCCATCTCACCCTGCAAAGCCTTCCCCAATTGTAAATTTGCTGAA AAATGTTTGTTTGTTCACCCAAATTGTAAATATGATGCAAAGTGTACTAAACCAGATTGTCCCTTCACTCATGTG AGTAGAAGAATTCCAGTACTGTCTCCAAAACCAGTTGCACCACCACCACCACCTTCCAGTAGTCAGCTCTGCCGT TACTTCCCTGCTTGTAAGAAGATGGGAATGTCCCTTCTATCATCCAAAACATTGTAGGTTTAACACTCAATGTACA AGACCGGACTGCACATTCTACCATCCCACCATTAATGTCCCACCACGACATGCCTTGAAATGGATTCGACCTCAA  ${\tt ACCAGCGAA} {\color{red}{\bf TAG}} {\tt CACCCAGTCCTGCCTGGCAGAAGATCATGCAGTTTGGAAGTTTTCATGTACTGATGAAAGATA$ CTCTACAGAACTTGTCAAATCTTTGAAACTTGGAATATATTGCTTTCATAATATGAAGTTTTATTGCCTATCT

MISLTKTSTLCRRIPYLRKKPTVTLTYGSSRPSIEIYRPPASRNADSGVHLNRLQFQQQQNSIHAAKQLDMQSSW VYETGRLCEPEVLNSLEETYSPFFRNNSEKMSMEDENFRKRKLPVVSSVVKVKKFNHDGEEEEEDDDYGSRTGSI SSSVSVPAKPERRPSLPPSKQANKNLILKAISEAQESVTKTTNYSTVPQKQTLPVAPRTRTSQEELLAEVVQGQS RTPRISPPIKEEETKGDSVEKNQAEMSELSVAQKPEKLLERCKYWPACKNGDECAYHHPISPCKAFPNCKFAEKC LFVHPNCKYDAKCTKPDCPFTHVSRRIPVLSPKPVAPPAPPSSSQLCRYFPACKKMECPFYHPKHCRFNTQCTRP DCTFYHPTINVPPRHALKWIRPQTSE

#### 4400/6881 FIGURE 4059

AATTCCGGCGGAAGTGGTGGAGGAACTTCCGGCAGCGGCAGCTCAAGTGGCCAAGGCAAGATCGGTCAAAGTCAG AGTGGTGGTCATGGTCCTGGAGGTGGCAAGAAGGATGACGAGGACAAGAAAAAGAAATATGAACCTCCTGTACCA ACTAGAGTGGGGAAAAAGAAGAAGAAAACAAAGGGACCAGATGCTGCCAGCAAACTGCCACTGGTGACACCTCAC ACTCAGTGCCGGTTAAAATTACTGAAGTTAGAGAGAATTAAAGACTATCTTCTCATGGAGGAAGAATTCATTAGA AATCAGGAACAATGAAACCATTAGAAGAAAAGCAAGAGGAGGAAAGATCAAAAGTGGATGATCTGAGGGGGGACC CCGATGTCAGTAGGAACCTTGGAAGAGATTATTGATGACAATCATGCCATCGTGTCTACATCTGTGGGCTCAGAA CACTACGTCAGCATTCTTTCATTTGTAGACAAGGATCTGCTGGAACCTGGCTCGGTCCTGCTCAACCACAAG GTGCATGCCGTGATAGGGGTGCTGATGGATGACACGGATCCCCTGGTCACAGTGATGAAGGTAGAAAAGGCCCCC CAGGAGACCTATGCAGATATTGGGGGGTTGGACAACCAAATTCAGGAAATTAAGGAATCTGTGGAGCTTCCTCTC ACCCATCCTGAATATTATGAAGAGATGGGTATAAAGCCTCCTAAGGGGGGTCATTCTCTATGGTCCACCTGGCACA ATTCAGAAGTACCTAGGTGATGGGCCCAAACTCGTACGGGAATTGTTCCGAGTTGCTGAAGAACATGCACCGTCC CAGCGAACATGTTGGAACTGCTGAACCAGTTGGATGGATTTGATTCTAGGGGAGATGTGAAAGTTATCATGGCC ACAAACCGAATAGAAACTTTGGATCCAGCACTTATCAGACCAGGCCGCATTGACAGGAAGATTGAGTTCCCCCTG GACGACCTGATCATGGCTAAAGATGACCTCTCTGGTGCTGACATCAAGGCAATCTGTACAGAAGCTGGTCTGATG GCCTTAAGAGAACGTAGAATGAAAGTAACAAATGAAGACTTCAAAAAATCTAAAGAAAATGTTCTTTATAAGAAA CAGGAAGGCACCCCTGAGGGGCTGTATCTCTAATGAACCATGGCTGTCATCAGGAAAATGGTTGGGAGATTTCTC AATCCCTGAAAGGGATGAGGTTGGGGGAGTTGCCCAGAGGAATCCCTGTTCCCACTGATTTTTATTAGCAAAACA TCCTGTGTCTTTTGGAGTACGATGTGTAAGTGCCCATTGGGTGGCCTGTTGGTCACTGTGCAGCAGTCTGCTTCC CAATAAAGCGTGCTCTTTCACAAG

# FIGURE 4060

MGQSQSGGHGPGGGKKDDEDKKKKYEPPVPTRVGKKKKKTKGPDAASKLPLVTPHTQCRLKLLKLERIKDYLLME EEFIRNQEQMKPLEEKQEEERSKVDDLRGTPMSVGTLEEIIDDNHAIVSTSVGSEHYVSILSFVDKDLLEPGCSV LLNHKVHAVIGVLMDDTDPLVTVMKVEKAPQETYADIGGLDNQIQEIKESVELPLTHPEYYEEMGIKPPKGVILY GPPGTGKTLLAKAVANQTSATFLRVVGSELIQKYLGDGPKLVRELFRVAEEHAPSIVFIDEIDAIGTKRYDSNSG GEREIQRTMLELLNQLDGFDSRGDVKVIMATNRIETLDPALIRPGRIDRKIEFPLPDEKTKKRIFQIHTSRMTLA DDVTLDDLIMAKDDLSGADIKAICTEAGLMALRERRMKVTNEDFKKSKENVLYKKQEGTPEGLYL

# 4403/6881 FIGURE 4062

 ${\tt MINTKGKRRGTRYMFSRPFRKHGVVPLATYMRIYKKVDIVDVKGMGTVQKGMPHKCYHGKTGRVYSVTQHAVGIV} \\ {\tt VNKQVKGKILAKRINVRIKHIKHSKSQDSFLKRVKENDPPPREAHFVRTSGKEPELLEPIPCEFMA}$ 

### FIGURE 4063

AGTGGTGCTGGGAGTGTCGTGGACGCCGTTACTCGTAGTCAGGCGGCGGCGCGCGGCGGCGGCGCAT AGCGCACAGCGCCCTTAGCAGCAGCAGCAGCAGCAGCATCGGAGGTACCCCCGCCGTCGCAGCCCCGCGC TGGTGCAGCCACCCTCGCTCCTCTCCTCCCTTCGCTCGCACCATCGCTGATCAGCTGACCGAAGAACA GATTGCTGAATTCAAGGAAGCCTTCTCCCTATTTGATAAAGATGGCGATGGCACCATCACAACAAAGGAACTTGG AACTGTCATGAGGTCACTGGGTCAGAACCCAACAGAAGCTGAATTGCAGGATATGATCAATGAAGTGGATGCTGA TGGTAATGGCACCATTGACTTCCCCGAATTTTTGACTATGATGGCTAGAAAAATGAAAGATACAGATAGTGAAGA AGAAATCCGTGAGGCATTCCGAGTCTTTGACAAGGATGGCAATGGTTATATCAGTGCAGCAGAACTACGTCACGT CATGACAAACTTAGGAGAAAAACTAACAGATGAAGAAGTAGATGAAATGATCAGAGAAGCAGATATTGATGGAGA CGGACAAGTCAACTATGAAGAATTCGTACAGATGATGACTGCAAAATGAAGACCTACTTTCAACTCCTTTTTCCC TTGGTGGTCCTGTCCCCTAAAGATCAAGCTACACATCAGTTTTACAATATAAATACTTGTACTACCTTAATGATA ACGATTGAGCACAGTCAGGCCTTTGTATTAAAAATGAAAAATGAAAAAACAAATTCAAAACCTATTCAAATGGGT CAGGATGACGTGCAGAAAAATGGGTGAAGGATAAACCGTTGAGACGTGGCCCCACTGGTAGGATGGTCCTCTTGT ACTTCGTGTGCTCCGACCCATGGTGACGATGACACACCCTGGTGGCATGCCCGTGTATGTTGGTTTAGCGTTGTC TGCATTGTTCTAGAGTGAAACAGGTGTCAGGCTGTCACTGTTCACACAAATTTTTAATAAGAAACATTTACCAAG GGAGCATCTTTGGACTCTCTGTTTTTAAAACCTTCTGAACCATGACTTGGAGCCGGCAGAGTAGGCTGTGGCTGT GGACTTCAGCACAACCATCAACATTGCTGTTCAAAGAAATTACAGTTTACGTCCATTCCAAGTTGTAAATGCTAG **TCTTTTTTTTTTTTTTTCCAATAAA** 

GCTGTCCTGGCTCTTCTGCTCTGCGCCGGGCAAGTCACTGCGCTCCCTGTGAACAGCCCTATGAATAAAGGGGAT ACCGAGGTGATGAAATGCATCGTTGAGGTCATCTCCGACACACTTTCCAAGCCCAGCCCCATGCCTGTCAGCCAG GAATGTTTTGAGACACTCCGAGGAGATGAACGGATCCTTTCCATTCTGAGACATCAGAATTTACTGAAGGAGCTC  ${\tt CAAGACCTCGCTCTCCAAGGCGCCAAGGAGGGCACATCAGCAGAAGAAACACAGCGGTTTTGAAGATGAACTC}$ TCAGAGGTTCTTGAGAACCAGAGCAGCCAGGCCGAGCTGAAAGAGGCGGTGGAAGAGCCATCATCCAAGGATGTT ATGGAGAAAAGAGAGGATTCCAAGGAGGCAGAGAAAAGTGGTGAAGCCACAGACGAGCCCAGGCCCCAGGCCCTC GCCACCACCCCCCCAGCCAGCCTCCCCAGCCAGAAATACCCAGGCCCACAGGCCGAGGGGGACAGTGAG GAGGAGGAGGAGGAGGAGGCTGAGGCTGGAGGAGGAGGCTGTCCCCGAGGAAGAAGGCCCCACTGTAGTGCTG GCTGGGAAGCCTGGGGCTGAGGAGGCTCAGGACCCCGAAGGGAAGAGAACAGGAGCACTCCCAGCAGAAAGAG GAGGAGGAGAGTGGCCGCTCCCGCAAGGCCTCTTCCGGGGTGGGAAGAGCGGAGAGCTGGAGCAGGAGGAG GAGCGGCTCTCCAAGGAGTGGGAGGACTCCAAACGCTGGAGCAAGATGGACCAGCTGGCCAAGGAGCTGACGGCT GAGAAGCGGCTGGAGGGCCAGGAGGAGGAGGACGACAGCTCCATGAAGCTCTCCTTCCGGGCCCGG GCCTACGGCTTCAGGGGCCCTGGGCCGCAGCTGCGACGAGGCCTGGAGGCCATCCTCCCGGGAGGACAGCCTTGAG GCGGGCCTGCCCTCCAGGTCCGAGGCTACCCCGAGGAGAAAAAAGAGAGGAGGAGGCGCAAACCGCAGACCA GAGGACCAGGAGCTGGAGAGCCTGTCGGCCATTGAAGCAGAGCTGGAGAAAGTGGCCCACCAGCTGCAGGCACTA CGGCGGGGC<u>TGA</u>GACACCGGCTGGCAGGGCTGGCCCCAGGGCACCCTGTGGCCCTGGCTCTGCTGTCCCCTTTGGC AGGTCCTGGCCAGATGGCCCGGACGCTTCCGGTAGGGAGGCAGCCTCCAGCCTGCCCAAGCCCAGGCCACCC TATCGCCCCTACGCGCCTTGTCTCCTACTCCTGACTCCTGCCCTGGAACATCCTTTGCAGGGCAGCCCCA CAACTTTAAACATTGACGATTCCTTCTCTGAACACGGCAGCTTTCTAGAAGTTTCCCTTCCTCCATCCTATCCA CTGGGCACAACTGCAATAACTTCTGACCTTTTGGTGAAAGCTGAGAACTCCTGACTGTAACATATTCTGTATGAA CTTTATCTAAAGAAAAATAAATCTGTTCTGGGCTCTTTCCTCTG

MRSAAVLALLLCAGQVTALPVNSPMNKGDTEVMKCIVEVISDTLSKPSPMPVSQECFETLRGDERILSILRHQNL LKELQDLALQGAKERAHQQKKHSGFEDELSEVLENQSSQAELKEAVEEPSSKDVMEKREDSKEAEKSGEATDGAR PQALPEPMQESKAEGNNQAPGEEEEEEEEATNTHPPASLPSQKYPGPQAEGDSEGLSQGLVDREKGLSAEPGWQA KREEEEEEEEAAGEEAVPEEEGPTVVLNPHPSLGYKEIRKGESRSEALAVDGAGKPGAEEAQDPEGKGEQEHS QQKEEEEEMAVVPQGLFRGGKSGELEQEEERLSKEWEDSKRWSKMDQLAKELTAEKRLEGQEEEEDNRDSSMKLS FRARAYGFRGPGPQLRRGWRPSSREDSLEAGLPLQVRGYPEEKKEEEGSANRRPEDQELESLSAIEAELEKVAHQ LQALRRG

CTTTCTGAAAGGGAAGAGTTGGCTACTGGCTGAGCGAGAAAAATCAAGAAGCTGAATTTCCAGGCCTTCGC GGACGTCATCATCCACAAGCTGACTGACGTCATCCTTGAAGCCGACCAGAATGATAGCCAGTCCCTGGAGCTGGT GCACAGGTTCCAGGAGTACATCGATGCCCACCTGAGACCATCGTCCTGGACCCGCTCCCTGCCATCAGAACCCT GCTTGACCGCTCCAAGTCCTATGAGCTCATCCGGAAGATTGAGGCCTACATGGAAGACGACAGGATCTGCTCGCC ACCCTTCATGGAGCTCACGAGCCTGTGCGGGGATGACACCATGCGGCTGCTGGAGAAGAACGGCTTGACTTTCCC ATTCATTTGCAAAACCAGAGTGGCTCATGGCACCAACTCTCACGAGATGGCTATCGTGTTCAACCAGGAGGGCCT GAACGCCATCCAGCCACCCTGCGTGGTCCAGAATTTCATCAACCACAACGCCGTCCTGTACAAGGTGTTCGTGGT TGGCGAGTCCTACACCGTGGTCCAGAGGCCCTCACTCAAGAACTTCTCCGCAGGCACATCAGACCGTGAGTCCAT CTTCTTCAACAGCCACAACGTGTCAAAGCCGGAGTCGTCATCGGTCCTGACGGAGCTGGACAAGATCGAGGGCGT GTTCGAGCGGCCGAGCGACGAGGTCATCCGGGAGCTCTCCCGGGCCCTGCGGCACTGGGCGTGTCACTCTT CGGCATCGACATCATCATCAACAACCAGACAGGCCAGCCGCCGTCATTGACATCAATGCCTTCCCAGGCTACGA GGGCGTGAGCGAGTTCTTCACAGACCTCCTGAACCACATCGCCACTGTCCTGCAGGGCCAGAGCACAGCCATGGC GACATGCAGCGCCAGCCCGGCTGCTGCGGCAGCATGATGGGCCAGGACGCCCCTGGAAGGCTGAGGCCGACGC GGGCGCCACCGCCAAGCTGCCGCACCAGAGACTCGGCTGCAACGCCGGCGTGTCGCCCAGCTTCCAGCAGCATTG TGTGGCCTCCTGGCCACCAAGGCCTCCTCCCAGTAGCCACGGAGCCGGGACCCAGAGGGGCAGCGCAGGGCGCA GAGCACACCCGCTGGGCCAGCAGCTCCCAACGGCGATGCTACTACTAAGAATCCCCAGTGATCTGATTCTTCTGT TTTTTAATTTTTAACCTGATTCTCTGATGTCATGATCTAAATGAGGGGTAGTGGGGGATGGAAGAGTACCAGG TGGTCCACCGTTGGGGAGTGGGGCCGTCCGCCTGCTCTACTGTGCAGACCTCCTAACTGAGTTTACACACGCT TGTGTTTGCAACACTAGGTCTGGATGGGAGGTGAGGGGTGTGCGTATGGCTGCCATGCCAGTGTCTGTGCACATC CCTGTCTGTTGGTCTCCATGGCCACTGTGGACCGGGACCCTTGGGGGAAGCCTGCCCATGTCGGGCTGTGGGAGG CCAGAGGAGGCCACAGACCCCTCAGGGGAGTTCCGCGCTGGGGTCTGGGCTGTGCTCCCTCACTAAAGGGAAGGA AAGGAAGCTGGGCCTCTGGGCCCCCCAACACGCGTCCCATTTAGCCCTGCACAGCGGTCTCCTTCCCCTAAG GGATTTGTGCTGTGATTTGGGCAAATCATTCCAGGTCTTTGGGCCTCCACCCCCTTGTCTCTAGTGGACATTTGA GGTGAGGATAGGCGCGGGAGCCTCGGCATGACACCATGGAGATCGGGGCCCTCTTCCCAGTGGGTTCACTCCTTT TCACACCTGCTGGGTCCCTCCTCACCCAGCAGGCCTGGTCCACCTCTCATTGCAAGCCCCAAGCACTGAGCCAGC AGGTGCCAGGGAGCCACCCGCCCCCATCGCTTCTGCACACCTCAGACTCACCCCATCACCTTGGCAGCAAAGCA CTGGCTCTGCCGTCTGACCCCTGATCCAGGCAGCCCCCTCTGCAGAGAAAAGGGTTGGGGAGAAGCCTCTGCAGT CCTGGAAGATGTGGGGTGCTGGGTGAGAGGCATCAGCCCCCACAAGTATGTTTTTGTGTCTTAAGATAGCAGTTT ACTTTGAAAAAGTGAAAAAGGCTTCCGGGCTGTCCTCTGCCCAGTGAGATGGAGGACGCTAGAGAAAGTGCTGAG TGTCCCGAGAGAGGCCCCCGAGCCAGTGCATGGAGGTCCTTCGGCCTGGCTCAGCTGGGCTGCAGGATGCCCACT TTGAGGAGGGAGGCACAGGGCTTGGGCGAGGGGCAGAGGCCATCAGAACTGCCCGGCTTTTTTGGAAACTGAGGA CCCAACAACTAACCACGTTTACACGACTTGAGTTTTGAACCCCGATTAATGTCTGTACGTCACCTTTCCTAGTTC TGACCCTGAGCCCTGGGGAACAGGAAAGCGTGGCTGGCCTCTTGCACTGCTTTGTCTCCAAAATAAACTACTGAA ATCAAACCGCA

#### 4409/6881 FIGURE 4068A

GCATTCCCGCACCGGATCGCTCCTCGCTGGGGCGGGACCTGGCCTGGCGGCTCTGGTCACTATGAGTGAAACATC TTTCAACCTAATATCAGAAAAATGTGACATTCTATCCATTCTTCGGGACCATCCTGAAAACAGGATTTACCGGAG GAAAATCGAGGAACTCAGCAAAAGGTTCACCGCCATCCGCAAGACCAAAGGGGAACTGCTTCTACAGGGC CTTGGGCTATTCCTACCTGGAGTCCCTGCTGGGGAAGAGCAGGGAGATCTTCAAGTTCAAAGAACGCGTACTGCA GACCCCAAATGACCTTCTGGCTGCTTTTGAGGAGCACAAGTTCAGAAACTTCTTCAATGCTTTTTACAGTGT GGTGGAACTGGTAGAGAAGGATGGCTCAGTGTCCAGCCTGCTGAAGGTGTTCAACGACCAGAGTGCCTCGGACCA TGAGGAGATGGACATCAAAGACTTCTGCACTCACGAAGTAGAGCCCATGGCCACGGAGTGTGACCACATCCAGAT  ${\tt CACGGCGTTGTCGCAGGCCCTGAGCATTGCCCTGCAAGTGGAGTACGTGGACGAGATGGATACCGCCCTGAACCA}$ CCACGTGTTCCCTGAGGCCGCCACCCCTTCCGTTTACCTGCTCTATAAAACATCCCACTACAACATCCTTTATGC AGCCGATAAACATTGATTAATTTTAGGCCATGCAGTGGAACCTGTCACCTAATGGGACTGCATTCTGAATGGAAC ATTCCGGCTCTTCAATTTTTTAAGCAATTTAGACTGTAGCAAGAAAATGTGCAGCCTTTTGGGCAAAGCCCCTGG GAACGAGGCCTATCCACTATGGACTATGGTAACTTGGTAGGATTTTTAGTATTTAATTGGAGGGACAAATG TTGTTTCTTCAACTGGAGGTCCCTGCCTATGCTGACATTCCATTGTAGAAAAATGGGGCCTCTGGTGTCTCT TTACCAGGGGCAGTGCCTCTCTGCGGGGGAGGAAAAGCTCAAGGTTAGCTGTCTTAACCCAAGTGACTTACCAGG CCTACAAAAGAGTCCAGTCCAGTCACTTGTTGGACTGGGCTCTGACAGATGGCCTATTGAGGTCAACTTGAATGT GACTTCCTTTTTTTGCCAAAGTCCAGAAAGGGGCCTTTAGCCTTTAGTAGGAGCTCAAATTGTTGGGGCCCCTCT ACCTCTCTCAGGGCTAGAACTGCCTGACTCTTGGTGGACGAGCCCTTCAGGGTTCTGCTTTCAGCCCCACCTGGA CCAGCTGAGCAGAGCAGACGCTTTGCAGGCTGCCCTTGCTTCTTCCTCCTTTTCCCGCTTCTGCTCTTTATG GACTGGTCAGAGGGTAGGTGGGAAAGAACAGACAAGCCATGGGAAGTTGGCAGTGGGGAGATTTCCACTGTGGAA ACCGCCTGGGAATTCCGGCCAGCAGCTTCCTCCTTCAGCCACCTGGCCATACCCCTTAAATAAGCCCCTCACCTT GCTGCCTCAGGACCTTCAAGATTCCATCTGTGGGCTGGCCGCAAGATGGCACCAGTGGGGACCCAÇACCCTGGC TGGGCAGAGGTGCTGCTAGCAACCTCTCTTCCTCTATAAGAGGAAAATGGAAAATGCAGGGTGTGGAATTGCCCTT TGGGGTCCTTCCTTAATTGAAGGCCACCTTCTCACAGGTTTCATTCTGCAGGGATTTACTGGAATCTATTGGTGC TGCTGCATGAGTCTGCTGACAACCTGACTGCACAAGGACTGGGTAGCAGACTCCTCAGAGTCCTCTTGACACAAA TGTCAGATTTGTGTCACTCTTCTGCCTTCGTGAAAAGCCAATAGCACTCTCAGATATCAGGGGATTTTAGTTCCA AGCAGGGACCCTGGTTTCCATACTGCCCTCAGCTGGAGTTTTGGATCCAAAGGCTCTGGCTAAGTCATTATGTCAC TTTTTCACAGGAATGTAAATTTGACTGTCACCTCTGAATTTGTTCAGTGTCCCACCATGGTCTATGAGAAGTACA CTGGAAGCGTGGGGGAACACATGACTTTTGTGAATATCATCTTTTGCCAGACAAGTCTCCAGGGGATCC CTGTTTCCCAACTGAAAGGTGTGAACGGACACACACACCTGGATGACGCCTTTGGCTGTTCTAAGGGGCTGTA AGGTGGGCTCTGGGCCTTCCAGCTAGGCTCTCAAGCACAGCAGAAGCCTCACTGGGCTGCTATGTCTCTGTATTT TGTGCTGTGCTTCCAGGTCACAGAGCCCCCCGGAAACTCACAGGGGCCCTCTTCCCAGAAAAGAATCTATTCTAT CACTTCAGAATCAGGACACTCAAGCTCTGGCAGAGGAAGGCCAAGTTACTTTCATGGTCTTACCCTCTGCTTTTC CCCTTTTTGCAAAAAACCACTGGCCAAATCCGAACCATTGCCCTTGTTTCCCCCACGTTCTCTCCAGATCTTTG TCTCGAAGGGAAAACATAGTGGATGAAAAGGTGTGGCAGGCTTTGGCACCTTGTTAAAATTTCTAGTCATCTGTG GATGTTACCTTGCTCACAGCAGCCAGTCACCTGGCCAGTCCCACTTCCTGGATAATTCTCTACCCTCACC CCACAGAGCCATCTCTCCCAGACCAAAAGCTGGAAGGAGAGTTGCTTTGAGAGCTTGTTTTTACAACTGCATGT TTATTATGATACTTTCTCCAAAGGAAACTTTTAAATCAATGGGAACAATTAGCAACAGAAAGAGCACAGTCCC TGCTTTTGACTGGGTTCCTATTTTAAGCACAAATGAGAGCTCTGGAGCCAGAATGCCAGGGTTCTAACTTCAGCA TTCACTTACTAGCTGTATGATCTTGGCCAAGTCACTTCACCTCCCTGAGCCCCAATTCCCAAGTTTGTGAAATGG CAACAATACCTATGTGTCACTGGATTATTGGTTAAAACAGAATGAGATTCCTTGTGTGAAAATAGCTATTATACC 

# FIGURE 4068B

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### FIGURE 4069

 $\tt CCGGAACTGCAGTTGCTGCAGCTGAGGTACAGCGGCGGTTTCTGAGGTTCTTCACTCGCGACTGACGGAGCT$ GCGGTGGCGTCTCCACACGCAACC<u>ATG</u>AAGTTGAAGGACACAAAATCAAGGCCAAAGCAGTCAAGCTGTGGCAAA CAGATGGATGACTTGGTGTGCTTTGAGGAATTGACAGATTACCAGTTGGTCTCCCCTGCCAAGAATCCCTCCAGT CTCTTCTCAAAGGAAGCACCCAAGAGAAAGGCACAAGCTGTTTCAGAAGAAGAGGAGGAGGAGGAGGAAGTCT TTTGAAGTGAAAGATCCTGAGCTGGAGGCCCAGGGAGATGACATGGTTTGTGATGATCCGGAGGCTGGGGAGATG ACATCAGAAAACCTGGTCCAAACTGCTCCAAAAAAGAAGAAAAATAAAGGGAAAAAAGGGTTGGAGCCTTCTCAG AGCACTGCTGCCAAGGTGCCCAAAAAAGCGAAGACATGGATTCCTGAAGTTCATGATCAGAAAGCAGATGTGTCA GCTTGGAAGGACCTGTTTGTTCCCAGGCCGGTTCTCCGAGCACTCAGCTTTCTAGGCTTCTCTGCACCCACACCA ATCCAAGCCCTGACCTTGGCACCTGCCATCCGTGACAAACTGGACATCCTTGGGGCTGCTGAGACAGGAAGTGGG AAAACTCTTGCCTTTGCCATCCCAATGATTCATGCGGTGTTGCAGTGGCAGAAGAGGAATGCTGCCCCTCCTCA AGTAACACCGAAGCACCACCTGGAGAGACCAGAACTGAGGCCGGAGCTGAGACTAGATCACCAGGCAAGGCTGAA GCTGAGTCTGATGCATTGCCTGACGATACTGTAATTGAGAGTGAAGCACTGCCCAGTGATATTTGCAGCCGAGGCC AGAGCCAAGACTGGAGGCACTGTCTCAGACCAGGCGTTGCTCTTTGGTGACGATGATGCTGGTGAAGGGCCTTCT TCCCTGATCAGGAGAAACCTGTTCCCAAACAGAATGAGAATGAGGAGGAAAATCTTGATAAAGAGCAGACTGGA AATCTAAAACAGGAGTTGGATGACAAAAGCGCCACCTGTAAGGCATATCCAAAGCGTCCTCTGCTTGGACTGGTT CTGACTCCCACTCGAGAGCTGGCCGTCCAGGTCAAACAGCACATTGATGCTGTGGCCAGGTTTACAGGAATTAAA ACTGCTATTTTGGTTGGTAATGTCCACGCAGAAACAGCAGAGGATGCTGAACCGTCGTCCTGAGATTGTGGTT GCTACTCCAGGCCGGCTGTGGGAATTAATTÄAAGAAAAGCATTATCATTTGAGGAACCTTCGGCAGCTCAGGTGC CTGGTAGTGGATGAGGCTGACCGGATGGTTGAGAAAGGCCATTTTGCTGAGCTCTCACAGCTGCTAGAGATGCTC AATGACTCCCAATACAACCCAAAGAGACAAACGCTTGTTTTTTCTGCCACACTCACCCTGGTGCATCAGGCTCCT GCTCGAATCCTTCATAAGAAGCACACCAAGAAAATGGATAAAACAGCCAAACTTGACCTCCTTATGCAGAAAATT GGCATGAGGGCAAGCCCAAGGTCATTGACCTCACAAGGAATGAGGCCACGGTGGAGACGCTAACAGAGACCAAG ATCCATTGTGAGACTGATGAGAAAGACTTCTACTTGTACTACTTCCTGATGCAGTATCCAGGCCGCAGCTTAGTG TTTGCCAACAGTATCTCCTGCATCAAACGCCTCTCTGGGCTCCTCAAAGTCCTTGATATCATGCCCTTGACCCTG CATGCCTGTATGCACCAGAAGCAGAGGCTCAGAAACCTGGAGCAGTTTGCCCGTCTGGAAGACTGTGTTCTCTTG GCAACAGATGTGGCAGCTCGGGGTCTGGATATTCCTAAAGTCCAGCATGTCATCCATTACCAGGTCCCACGTACC TCGGAGATTTATGTCCACCGAAGTGGTCGAACTGCTCGAGCTACCAATGAAGGCCTCAGTCTGATGCTCATTGGG CAGACAAAATACATGGATGTGGTCAAGGAGCGAATCCGTTTAGCTCGACAGATTGAGAAATCTGAGTATCGGAAC TTCCAGGCTTGCCTGCACAACTCTTGGATTGAGCAGCAGCAGCTGCCCTGGAGATTGAGCTGGAAGAAGACATG TATAAGGGAGGAAAAGCTGACCAGCAAGAAGAACGTCGGAGACAAAAGCAGATGAAGGTTCTGAAGAAGGAGCTG CGCCACCTGCTGTCCCAGCCACTGTTTACGGAGAGCCAGAAAACCAAGTATCCCACTCAGTCTGGCAAGCCGCCC CTGCTTGTGTCTGCCCCAAGTAAGAGCGAGTCTGCTTTGAGCTGTCTCCCAAGCAGAAGAAGAAGAAGAAGAAAG AAGCCGAAGGAGCCACAGCCGGAACAGCCACAGCCAAGTACAAGTGCAAAT<u>TAA</u>CTGGTCAAGTGTGTCAGTGAC TGCACATTGGTTTCTGTTCTCTGGCTATTTGCAAAACCTCTCCCACCCTTGTGTTTTCACTCCACCACCAACCCCA GGTAAAAAAGTCTCCCTCTCTCCACTCACACCCATAGCGGGAGAGACCTCATGCAGATTTGCATTGTTTTGGAG TAAGAATTCAATGCAGCAGCTTAATTTTTCTGTATTGCAGTGTTTATAGGCTTCTTGTGTGTTAAACTTGATTTC 

MKLKDTKSRPKQSSCGKFQTKGIKVVGKWKEVKIDPNMFADGQMDDLVCFEELTDYQLVSPAKNPSSLFSKEAPK
RKAQAVSEEEEEEGKSSPKKKIKLKKSKNVATEGTSTQKEFEVKDPELEAQGDDMVCDDPEAGEMTSENLVQT
APKKKKNKGKKGLEPSQSTAAKVPKKAKTWIPEVHDQKADVSAWKDLFVPRPVLRALSFLGFSAPTPIQALTLAP
AIRDKLDILGAAETGSGKTLAFAIPMIHAVLQWQKRNAAPPPSNTEAPPGETRTEAGAETRSPGKAEAESDALPD
DTVIESEALPSDIAAEARAKTGGTVSDQALLFGDDDAGEGPSSLIREKPVPKQNENEEENLDKEQTGNLKQELDD
KSATCKAYPKRPLLGLVLTPTRELAVQVKQHIDAVARFTGIKTAILVGGMSTQKQQRMLNRRPEIVVATPGRLWE
LIKEKHYHLRNLRQLRCLVVDEADRMVEKGHFAELSQLLEMLNDSQYNPKRQTLVFSATLTLVHQAPARILHKKH
TKKMDKTAKLDLLMQKIGMRGKPKVIDLTRNEATVETLTETKIHCETDEKDFYLYYFLMQYPGRSLVFANSISCI
KRLSGLLKVLDIMPLTLHACMHQKQRLRNLEQFARLEDCVLLATDVAARGLDIPKVQHVIHYQVPRTSEIYVHRS
GRTARATNEGLSLMLIGPEDVINFKKIYKTLKKDEDIPLFPVQTKYMDVVKERIRLARQIEKSEYRNFQACLHNS
WIEQAAAALEIELEEDMYKGGKADQQEERRQKQMKVLKKELRHLLSQPLFTESQKTKYPTQSGKPPLLVSAPSK
SESALSCLSKQKKKKTKKPKEPQPEQPQPSTSAN

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#### 4413/6881 FIGURE 4071

ACTGTACACATGCTAGGGTCCAGGACAGGACCAAGCCAGCAGAAACAGCCTGAGCCCACCGCAGACTGGCCT GGCTATACTGGACAATGCCACTCCTGTACACCTGTCTTCTCTGGCTGCCCACCAGCGGCCTCTGGACCGTCC AGGCCATGGATCCTAACGCTGCTTATGTGAACATGAGTAACCATCACCGGGGCCTGGCTTCAGCCAACGTTGACT TTGCCTTCAGCCTGTATAAGCACCTAGTGGCCTTGAGTCCCAAAAAGAACATTTTCATCTCCCCTGTGAGCATCT CCATGGCCTTAGCTATGCTGTCCCTGGGCACCTGTGGCCACACACGGGCCCAGCTTCTCCAGGGCCTGGGTTTCA ACCTCACTGAGAGGTCTGAGACTGAGATCCACCAGGGTTTCCAGCACCTGCACCAACTCTTTGCAAAGTCAGACA CCAGCTTAGAAATGACCATGGGCAATGCCTTGTTTCTTGATGGCAGCCTGGAGTTGCTGGAGTCATTCTCAGCAG ACAGCTATGTCAAGAATAAGACACAGGGGAAAATTGTCGACTTGTTTTCAGGGCTGGATAGCCCAGCCATCCTCG TCCTGGTCAACTATATCTTCTTCAAAGGCACATGGACACAGCCCTTTGACCTGGCAAGCACCAGGGAGGAGAACT TCTATGTGGACGAGACACTGTGGTGAAGGTGCCCATGATGTTGCAGTCGAGCACCATCAGTTACCTTCATGACT CGGAGCTCCCCTGCCAGCTGGTGCAGATGAACTACGTGGGCAATGGGACTGTCTTCTTCATCCTTCCGGACAAGG GGAAGATGAACACAGTCATCGCTGCACTGAGCCGGGACACGATTAACAGGTGGTCCGCAGGCCTGACCAGCAGCC AGGTGGACCTGTACATTCCAAAGGTCACCATCTCTGGAGTCTATGACCTCGGAGATGTGCTGGAGGAAATGGGCA TTGCAGACTTGTTCACCAACCAGGCAAATTTCTCACGCATCACCCAGGACGCCCAGCTGAAGTCATCAAAGGTGG TCCATAAAGCTGTGCTGCAACTCAATGAGGAGGGTGTGGACACAGCTGGCTCCACTGGGGTCACCCTAAACCTGA CGTCCAAGCCTATCATCTTGCGTTTCAACCAGCCCTTCATCATCATGATCTTCGACCACTTCACCTGGAGCAGCC AGAGTTGTGTCTAACTTTAGGCATCTTTTAATAAATGTCATTGCGACTCTG

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## FIGURE 4073

GACAATGCCGTCTTCTGTCTCGTGGGGCATCCTCCTGCTGGCAGGCCTGTGCTGCCTGGTCCCTGTCTCCCTGGC TGAGGATCCCCAGGGAGATGCTGCCCAGAAGACAGATACATCCCACCATGATCAGGATCACCCAACCTTCAACAA GATCACCCCCAACCTGGCTGAGTTCGCCTTCAGCCTATACCGCCAGCTGGCACACCAGTCCAACAGCACCAATAT CTTCTTCTCCCCAGTGAGCATCGCTACAGCCTTTGCAATGCTCTCCCTGGGGACCAAGGCTGACACTCACGATGA AATCCTGGAGGCCTGAATTTCAACCTCACGGAGATTCCGGAGGCTCAGATCCATGAAGGCTTCCAGGAACTCCT CCGTACCCTCAACCAGCCAGACAGCCAGCTCCAGCTGACCACCGGCAATGGCCTGTTCCTCAGCGAGGGCCTGAA GCTAGTGGATAAGTTTTTGGAGGATGTTAAAAAGTTGTACCACTCAGAAGCCTTCACTGTCAACTTCGGGGACAC CGAAGAGGCCAAGAAACAGATCAACGATTACGTGGAGAAGGGTACTCAAGGGAAAATTGTGGATTTGGTCAAGGA GCTTGACAGAGACACTTTTTGCTCTGGTGAATTACATCTTCTTTAAAGGCAAATGGGAGAGACCCTTTGAAGT CAAGGACACCGAGGAAGAGGACTTCCACGTGGACCAGGCGACCACCGTGAAGGTGCCTATGATGAAGCGTTTAGG CATGTTTAACATCCAGCACTGTAAGAAGCTGTCCAGCTGGTGCTGCTGATGAAATACCTGGGCAATGCCACCGC CATCTTCTTCCTGCCTGATGAGGGGAAACTACAGCACCTGGAAAATGAACTCACCCACGATATCATCACCAAGTT CCTGGAAAATGAAGACAGAAGGTCTGCCAGCTTACATTTACCCAAACTGTCCATTACTGGAACCTATGATCTGAA GAGCGTCCTGGGTCAACTGGGCATCACTAAGGTCTTCAGCAATGGGGCTGACCTCTCCGGGGTCACAGAGGAGGC ACCCCTGAAGCTCTCCAAGGCCGTGCATAAGGCTGTGCTGACCATCGACGAGAAAGGĠACTGAAGCTGCTGGGGC CATGTTTTTAGAGGCCATACCCATGTCTATCCCCCCGAGGTCAAGTTCAACAAACCCTTTGTCTTAATGAT TCAACCCCTCCCTCCATCCCTGGCCCCCTCCTGGATGACATTAAAGAAGGGTTGAGCTGG

## FIGURE 4074

AGAACAAGAACAGCCACCATGCAGCTCTTCCTCCTCTTGTGCCTGGTGCTTCTCAGCCCTCAGGGGGCCTCCCT TCACCGCCACCACCCCGGGAGATGAAGAGAGAGTCGAGGACCTCCATGTAGGTGCCACGGTGGCCCCCAGCAG TGTGAGCATCTCCATGAGCCTGGCCATGCTCTCCCTGGGGGCTGGGTCCAGCACAAAGATGCAGATCCTGGAGGG  ${\tt CCTGGGCCTCAACCTCCAGAAAAGCTCAGAGAAGGAGCTGCACAGAGGCTTTCAGCAGCTCCTTCAGGAACTCAA}$ CCAGCCCAGAGATGGCTTCCAGCTGAGCCTCGGCAATGCCCTTTTCACCGACCTGGTGGTAGACCTGCAGGACAC CTTCGTAAGTGCCATGAAGACGCTGTACCTGGCAGACACTTTCCCTACCAACTTTAGGGACTCTGCAGGGGCCAT GAAGCAGATCAATGATTATGTGGCAAAGCAAACGAAGGGCAAGATTGTGGACTTGCTTAAGAACCTCGATAGCAA TGCGGTCGTGATCATGGTGAATTACATCTTCTTTAAAGCTAAGTGGGAGACAAGCTTCAACCACAAAGGCACCCA AGAGCAAGACTTCTACGTGACCTCGGAGACTGTGGTGCGGGTACCCATGATGAGCCGCGAGGATCAGTATCACTA CCTCCTGGACCGGAACCTCTCCTGCAGGGTGGTGGGGGTCCCCTACCAAGGCAATGCCACGGCTTTGTTCATTCT CAAAAAGGCAGCTCGAGCTTTACCTTCCCAAATTCTCCATTGAGGGCTCCTATCAGCTGGAGAAAGTCCTCCC CAGTCTGGGGATCAGTAACGTCTTCACCTCCCATGCTGATCTGTCCGGCATCAGCAACCACTCAAATATCCAGGT GTCTGAGATGGTGCACAAAGCTGTGGTGGAGGTGGACGAGTCGGGAACCAGAGCAGCGGCAGCCACGGGGACAAT ATTCACTTTCAGGTCGGCCCGCCTGAACTCTCAGAGGCTAGTGTTCAACAGGCCCTTTCTGATGTTCATTGTGGA TAACAACATCCTCTTCCTTGGCAAAGTGAACCGCCCCTGA

TCTGCCACCCTAACAGCCCACTTGACGAGGAGAATCTGACCCAGGAGAACCAAGACCGAGGGACACACGTGGACC TCGGATTAGCCTCCGCCAACGTGGACTTCGCTTTCAGCCTGTACAAGCAGTTAGTCCTGAAGGCCCCTGATAAGA ATGTCATCTTCTCCCCACTGAGCATCTCCACCGCCTTGGCCTTCCTGTCTCTGGGGGGCCCATAATACCACCCTGA CAGAGATTCTCAAAGGCCTCAAGTTCAACCTCACGGAGACTTCTGAGGCAGAAATTCACCAGAGCTTCCAGCACC TCCTGCGCACCCTCAATCAGTCCAGCGATGAGCTGCAGCTGAGTATGGGAAATGCCATGTTTGTCAAAGAGCAAC TCAGTCTGCTGGACAGGTTCACGGAGGATGCCAAGAGGCTGTATGGCTCCGAGGCCTTTGCCACTGACTTTCAGG ACTCAGCTGCAGCTAAGAAGCTCATCAACGACTACGTGAAGAATGGAACTAGGGGGAAAATCACAGATCTGATCA  ${\tt AGGACCTTGACTCGCAGACAATGATGGTCCTGGTGAATTACATCTTCTTTAAAGCCAAATGGGAGATGCCCTTTG}$ ACCCCCAAGATACTCATCAGTCAAGGTTCTACTTGAGCAAGAAAAAGTGGGTAATGGTGCCCATGATGAGTTTGC  $\verb|ATCACCTGACTATACCTTACTTCCGGGACGAGGAGCTGTCCTGCACCGTGGTGGAGCTGAAGTACACAGGCAATG|$ CCAGCGCACTCTTCATCCTCCCTGATCAAGACAAGATGGAGGAAGTGGAAGCCATGCTGCTCCCAGAGACCCTGA AGCGGTGGAGACTCTCTGGAGTTCAGAGAGATAGGTGAGCTCTACCTGCCAAAGTTTTCCATCTCGAGGGACT ATAACCTGAACGACATACTTCTCCAGCTGGGCATTGAGGAAGCCTTCACCAGCAAGGCTGACCTGTCAGGGATCA  ${\tt CAGGGGCCAGGAACCTAGCAGTCTCCCAGGTGGTCCATAAGGCTGTGCTTGATGTATTTGAGGAGGGCACAGAAG}$ CATCTGCTGCCACAGCAGTCAAAATCACCCTCCTTTCTGCATTAGTGGAGACAAGGACCATTGTGCGTTTCAACA  ${\tt GGCCCTTCCTGATGATCATTGTCCCTACAGACACCCAGAACATCTTCTTCATGAGCAAAGTCACCAATCCCAAGC}$ AAGCC<u>TAG</u>AGCTTGCCATCAAGCAGTGGGGCTCTCAGTAAGGAACTTGGAATGCAAGCTGGATGCCTGGGTCTCT GGGCACAGCCTGGCCCCTGTGCACCGAGTGGCCATGGCATGTGTGGCCCTGTCTGCTTATCCTTGGAAGGTGACA GCGATTCCCTGTGTAGCTCTCACATGCACAGGGGCCCATGGACTCTTCAGTCTGGAGGGTCCTGGGCCTCCTGAC **AGCAATAAATAATTTCGTTGG** 

## FIGURE 4076

MERMLPLLALGLLAAGFCPAVLCHPNSPLDEENLTQENQDRGTHVDLGLASANVDFAFSLYKQLVLKAPDKNVIF SPLSISTALAFLSLGAHNTTLTEILKGLKFNLTETSEAEIHQSFQHLLRTLNQSSDELQLSMGNAMFVKEQLSLL DRFTEDAKRLYGSEAFATDFQDSAAAKKLINDYVKNGTRGKITDLIKDLDSQTMMVLVNYIFFKAKWEMPFDPQD THQSRFYLSKKKWVMVPMMSLHHLTIPYFRDEELSCTVVELKYTGNASALFILPDQDKMEEVEAMLLPETLKRWR DSLEFREIGELYLPKFSISRDYNLNDILLQLGIEEAFTSKADLSGITGARNLAVSQVVHKAVLDVFEEGTEASAA TAVKITLLSALVETRTIVRFNRPFLMIIVPTDTQNIFFMSKVTNPKQA

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#### 4419/6881 FIGURE 4077

MSGALDVLQMKEEDVLKFLVAGTHLGGTNLDFQMEQYIYKRKSDGIYIINLKRTWEKLLLAARAIIAIENPADVS VISSRNTGQRAVLKFAAATEATPIAGHFTPGTFTNQIQADFWEPRLLVVTDPRADHQPLTEASYVNLPTIALCNT DSPLRYVDIAIPCNNQGARSVGLMWWTLAREVLRMRGTISREHLWEVMPDLYFYRDPEEIEKEEQAATEKAVTKE EFQGEWTAPAPEFTATKPEVADWSEGVQVPSVPIQSSLLKTGVLSLPWKTGLQLPLLRPLNGVGATTDWS

## FIGURE 4079

GTCACCGACCACCGGACCGCCTGTGGGCCTGGGAGAAGTTCGTGTATTTGGACGAGAAGCAGCACGCCTGGCTG CCCTTAACCATCGAGATAAAGGATAGGTTACAGTTACGGGTGCTCTTGCGTCGGGAAGACGTCGTCCTGGGGAGG CCTATGACCCCACCCAGATAGGCCCAAGCCTGCTGCCTATCATGTGGCAGCTCTACCCTGATGGACGATACCGA TCCTCAGACTCCAGTTTCTGGCGCTTAGTGTACCACATCAAGATTGACGGCGTGGAGGACATGCTTCTCGAGCTG CTGCCAGATGACTGATGTATGGCAGCACCTGTCTCCTTTCACCCCAGGGCCTGAGCCTGCCCAGCCTAC AATGGGGATGTTGTTTCTCTCACCTTCGTTTACTATGCCTGTGTCTTCTCCACCACGCTGGGGTCTGGGAGG TACCACTCCTGCCAAGGAGGATTCCATTTGGCAGAGCTTCTTCCAGGTGCCCAGCTATACCTGTGCCTCGGCTTT TCTCAGCTGGATGATGGTCTTCAGCCTCTTTCTGTCCCTTCTGTCCCTCACAGCACTAGTATTTCATGTTGCACA CCCACTCAGCTCCGTGAACTTGTGAGAACACAGCCGATTCACCTGAGCAGGACCTCTGAAACCCTGGACCAGTGG TCTCACATGGTGCTACGCCTGCATGTAAACACGCCTGCAAACGCTGCCGGTAAACACGCCTGCAAACGCTG CCTGCCGTAAACACGCCTGCAAACGCTGCCCACACAGGTTCACGTGCAGCTCAAGGAAAGGCCTGAAAGG AGCCCTTATCTGTGCTCAGGACTCAGAAGCCTCTGGGTCAGTGGTCCACATCCCGGGACGCAGCAGGAGGCCAGG CCGGCGAGCCCTGTGGATGAGCCCTCAGAACCCTTGGCTTGCCCACGTGGAAAAGGGATAGAGGTTGGGTTTCCC AATGCAAGATAGTTTATCTAACTTCGTGCGCAATCAGCTTCTATCCTTGACTTAGATTCTGGTGGAGAAGAGTGA 

 ${\tt MAECPTLGEAVTDHPDRLWAWEKFVYLDEKQHAWLPLTIEIKDRLQLRVLLRREDVVLGRPMTPTQIGPSLLPIM} \\ {\tt WQLYPDGRYRSSDSSFWRLVYHIKIDGVEDMLLELLPDD} \\$ 

### FIGURE 4081

TGAAAATGCCTCGTGTAAAAGCAGCTCAAGCTGGAAGACAGGCTCTGCAAAGAGACATCTTGCAGAACAATTTG CAGTTGGAGAGATAATAACTGACATGGCAAAAAAGGAATGGAAAGTAGGATTACCCATTGGCCAAGGAGGCTTTG CCAGTGACAATGGACCTCTTTTTACTGAATTAAAGTTCTACCAACGAGCTGCAAAACCAGAGCAAATTCAGAAAT GGATTCGTACCCGTAAGCTGAAGTACCTGGGTGTTCCTAAGTATTGGGGGTCTGGTCTACATGACAAAAATGGAA AAAGTTACAGGTTTATGATAATGGATCGCTTTGGGAGTGACCTTCAGAAAATATATGAAGCAAATGCCAAAAGGT TTTCTCGGAAAACTGTCTTGCAGCTAAGCTTAAGAATTCTGGATATTCTGGAATATATTCACGAGCATGAGTATG TGCATGGAGATATCAAGGCCTCAAATCTTCTTCTGAACTACAAGAATCCTGACCAGGTGTACTTGGTAGATTATG GCCTTGCTTATCGGTACTGCCCAGAAGGAGTTCATAAAGAATACAAAGAAGACCCCAAAAGATGTCACGATGGCA CTATTGAATTCACGAGCATCGATGCACACAATGGCGTGGCCCCATCAAGACGTGGTGATTTGGAAATACTTGGTT ATTGCATGATCCAATGGCTTACTGGCCATCTTCCTTGGGAGGATAATTTGAAAGATCCTAAATATGTTAGAGATT TTGCCAAATACATGGAAACAGTGAAATTACTAGACTACACTGAAAAAACCTCTTTATGAAAAATTTACGTGACATTC TTTTGCAAGGACTAAAAGCTATAGGAAGTAAGGATGATGGCAAATTGGACCTCAGTGTTGTGGAGAATGGAGGTT TGAAAGCAAAAACAATAACAAAGAAGCGAAAGAAAGAAATTGAAGAAAGCAAGGAACCTGGTGTTGAAGATACGG AATGGTCAAACACACAGACAGAGGGGCCATACAGACCCGTTCAAGAACCAGAAAGAGAGTCCAGAAGTAATTCA GATGCTGTGAACCAGATTTCCTTTTCTTTGTTTTCTTTTGACTTTTTTCTCCTTTTCTATTTGAACTGTTTTATT TTCCTGTGAGTCTTGCGAGGTGGAAGTAATGATTAAATACTCATGTGTTCAGAAAACATAAACTTTTTTTATAAA AATATTTTGTACAATTCATTAAAGGCTAATTTATGAAATTTGAAAATCTTCAGGTTATACTCCTTAAGTTATCCC AAAGCCGTGTGTTTGTGATGTTTTGGAGTACATATATATGAAAATTATTATGACACGCACTTTTCTAATCATTGT ACATTTCTCAGAGTGGATAAAAATGTTTGACAAAGTCCTCACTTTTAAGGAAATGCAAAGCTTAAAAATAAAACTC **TCTTTTGTTTGATGCA** 

 ${\tt MPAAALPRQEAEGPMSGSGELSVRHAIKFSVARAGQKGYHHRTEINKKIYKIGQGYLIKDGKLIKNNASTDYDLSDKSINPLGGFVHYGEVTNDFVMLKGCVVGTKKRVLTLRKSLLVQTKRRALEKIDLKFIDTTSKFGHGRFQTMEEKKAFMGPLKKDRIAKEEGA$ 

CTATGATGATTTGTAGGGTGGCACCTTTTTATCCAAGTTACTAGCTACACATCAGTGTTTAAAGAGAAAAAAGTG ATGCATGACTGCAGAGCGGTAGAGGTGTATATTTTTCATACTGTGGGGCAAAGTATTTGTGCTGCTTTTTGGAGA  $\tt TGGACTGGAACGTCTGGTTTCTGTCCCCGGGCCCGGCAGCTACGTCTATTTTCTGTAGAAGGTGCCACAGTGAGA$ CCTGGAGCCACCCTTCCTGCCCTGGCGCCGTTTAGAGCTGGGAGCCCGTGGACTCCCGGCCTGTTTCTACCTTC TATTCAACCACTCTGACGTGGGGAGACAAGAAGAAATAGAACTTTTTGATAGTGTGGTAAAAAACATTGATTTGAA AGTGAGGCCGCTGCTCCAGCTGCCTCTGTCTCATCACAGGCCAGAAGTGGAAAGGGTTTCAAATCCAAGCCC TGGGAGGCAGTGGGGTTGGCTGTGGCTGTGAGCTGCAGCCAGGCCTCTCCCGCGTCCCCAGGGTCTGGAAGG  ${\tt GATAGTTTCAGAACTGCTTTTATTTGGATAACTGACTGAAGGAGTCTCATTTGTAACCAAGATGGAATTCACAGTTGAACTGAATTGAATTG$ 

 ${\tt MGAQSGPLPQTEPWPLKVDSEAAAPPAASVSSQARSGKGFKSKPPGSCVRSTQQGFKVSNWFGTQPGPPKETKAGTGWGQAGLAGSCADPPRVPWEAVGLAVAAVSCSQASPASPGSGRRASAHFISHRLRRPGAPPSTHNKERDSFRTAFIWITD$ 

## FIGURE 4086

TGACCAGTGGCCACCTCTGCAGTGTCTTCCACAACCTGGTCTTGACTGTCTGCTGAACAAATCCTCTGACCTCA GGCCGGCTGTGAACGTAGTTCCTGAGAGATAGCAAACATGCCCAACAGTGAGCCCGCATCTCTGCTGGAGCTGTT TGCAGTAAAGATGTTGGTGTCATTAAAAATGAGCTACAAAGCTGCCGCGGGGGAGGATTACAAGGCTGACTGTCC TCCAGGGAACCCAGCACCTACCAGTAATCATGGCCCAGATGCCACAGAAGCTGAAGAGGATTTTGTGGACCCATG GACAGTACAGACAAGCAGTGCAAAAGGCATAGACTACGATAAGCTCATTGTTCGGTTTGGAAGTAGTAAAATTGA CAAAGAGCTAATAAACCGAATAGAGAGCCACCGGCCAAAGACCACCACTTCCTGCGCAGAGGCATCTTCTT CTCACACAGAGATATGAATCAGGTTCTTGATGCCTATGAAAATAAGAAGCCATTTTATCTGTACACGGGCCGGGG CGTGCCCTTGGTCATCCAGATGACGGATGACGAGAAGTATCTGTGGAAGGACCTGACCCTGGACCAGGCCTATAG CTATGCTGTGGAGAATGCCAAGGACATCATCGCCTGTGGCTTTGACATCAACAAGACTTTCATATTCTCTGACCT GGACTACATGGGGATGAGCTCAGGTTTCTACAAAAATGTGGTGAAGATTCAAAAGCATGTTACCTTCAACCAAGT GAAAGGCATTTTCGGCTTCACTGACAGCGACTGCATTGGGAAGATCAGTTTTCCTGCCATCCAGGCTGCTCCCTC CTTCAGCAACTCATTCCCACAGATCTTCCGAGACAGGACGGATATCCAGTGCCTTATCCCATGTGCCATTGACCA GGATCCTTACTTTAGAATGACAAGGGACGTCGCCCCCAGGATCGGCTATCCTAAACCAGCCCTGCTGCACTCCAC CTTCTTCCCAGCCCTGCAGGGCGCCCAGACCAAAATGAGTGCCAGCGACCCCAACTCCTCCATCTTCCTCACCGA GCAGTTTGGGGGCAACTGTGATGTGGACGTGTCTTTCATGTACCTGACCTTCTTCCTCGAGGACGACGACAAGCT CGAGCAGATCAGGAAGGATTACACCAGCGGAGCCATGCTCACCGGTGAGCTCAAGAAGGCACTCATAGAGGTTCT GCAGCCCTTGATCGCAGAGCACCAGGCCCGGCGCAAGGAGGTCACGGATGAGATAGTGAAAGAGTTCATGACTCC CCGGAAGCTGTCCTTCGACTTTCAGTAGCACTCGTTTTACATATGCTTATAAAAGAAGTGATGTATCAGTAATGT ATCAATAATCCCAGCCCAGTCAAAGCACCGCCACCTGTAGGCTTCTGTCTCATGGTAATTACTGGGCCTGGCCTC TGTAAGCCTGTGTATGTTATCAATACTGTTTCTTCCTGTGAGTTCCATTATTTCTATCTCTTATGGGCAAAGCAT TGTGGGTAATTGGTGCTGACATTGCATGGTCGGATAGAGAAGTCCAGCTGTGAGTCTCTCCCCAAAGCAGC CCCACAGTGGAGCCTTTGGCTGGAAGTCCATGGGCCACCCTGTTCTTGTCCATGGAGGACTCCGAGGGTTCCAAG TAACCTAGAAAGTGCTTTGAAATATTGATGTGGGGAGGTTTATTGAGCACAAGATGTATTTCAGCCCATGCCCCC TCCCAAAAAGAAATTGATAAGTAAAAGCTTCGTTATACATTTGACTAAGAAATCACCCAGCTTTAAAGCTGCTTT TAACAATGAAGATTGAACAGAGTTCAGCAATTTTGATTAAATTAAGACTTGGGGGTGAAACTTTCCAGTTTACTG AACTCCAGACCATGCATGTAGTCCACTCCAGAAATCATGCTCGCTTCCCTTGGCACACCAGTGTTCTCCTGCCAA ATGACCCTAGACCCTCTGTCCTGCAGAGTCAGGGTGGCTTTTCCCCTGACTGTCCGATGCCAAGGAGTCCTGG CCTCCGCAGATGCTTCATTTTGACCCTTGGCTGCAGTGGAAGTCAGCACAGAGCAGTGCCCTGGCTGTGTCCCTG TTTCATCACGCAGCATGTGCAGGCCTGGAAGAGCCAAATCTCAGGGAAGTCCTTGGTTGATGTATCTGGG 

MPNSEPASLLELFNSIATQGELVRSLKAGNASKDEIDSAVKMLVSLKMSYKAAAGEDYKADCPPGNPAPTSNHGP
DATEAEEDFVDPWTVQTSSAKGIDYDKLIVRFGSSKIDKELINRIERATGQRPHHFLRRGIFFSHRDMNQVLDAY
ENKKPFYLYTGRGPSSEAMHVGHLIPFIFTKWLQDVFNVPLVIQMTDDEKYLWKDLTLDQAYSYAVENAKDIIAC
GFDINKTFIFSDLDYMGMSSGFYKNVVKIQKHVTFNQVKGIFGFTDSDCIGKISFPAIQAAPSFSNSFPQIFRDR
TDIQCLIPCAIDQDPYFRMTRDVAPRIGYPKPALLHSTFFPALQGAQTKMSASDPNSSIFLTDTAKQIKTKVNKH
AFSGGRDTIEEHRQFGGNCDVDVSFMYLTFFLEDDDKLEQIRKDYTSGAMLTGELKKALIEVLQPLIAEHQARRK
EVTDEIVKEFMTPRKLSFDFQ

GGCACGAGGGAGAGCGCAGCCCGGTGCAGCCCTGGCTTTCCCCTCGCTGCGCGCCCCCCCTTTC GCGTCCGCAACCAGAAGCCCAGTGCGGCGCCAGGAGCCGGACCCGCACCGCACCGCTCCCGGGACCGCGACCCC GGCCGCCCAGAG<u>ATG</u>ACCGCGACCGAAGCCCTCCTGCGCGTCCTCTTGCTCCTGGCTTTCCGGCCACAGCACC TATGGGGCTGAATGCTTCCCGGCCTGCAACCCCCAAAATGGATTCTGCGAGGATGACAATGTTTGCAGGTGCCAG CCTGGCTGGCAGGGTCCCCTTTGTGACCAGTGCGTGACCTCTCCCGGCTGCCTTCACGGACTCTGTGGAGAACCC GGGCAGTGCATTTGCACCGACGGCTGGGACGGGGAGCTCTGTGATAGAGATGTTCGGGCCTGCTCCTCGGCCCCC TGTGCCAACACGGGACCTGCGTGAGCCTGGACGATGGCCTCTATGAATGCTCCTGTGCCCCCGGGTACTCGGGA AAGGACTGCCAGAAAAAGGACGGGCCCTGTGTGATCAACGGCTCCCCTGCCAGCACGGAGGCACCTGCGTGGAT GATGAGGCCCGGCCTCCCATGCCTCCTGCCCTGTGCCCCCCTGGCTTCTCAGGCAATTTCTGCGAGATCGTGGCC AACAGCTGCACCCCAACCCATGCGAGAACGACGGCGTCTGCACTGACATCGGGGGCGACTTCCGCTGCCGGTGC CCAGCCGGCTTCATCGACAAGACCTGCAGCCGCCCGGTGACCAACTGCGCCAGCAGCCCGTGCCAGAACGGGGGC ACCTGCCTGCAGCACCCCAGGTGAGCTACGAGTGTCTGTGCAAGCCCGAGTTCACAGGTCTCACCTGTGTCAAG AAGCGCGCGCTGAGCCCCAGCAGGTCACCCGTCTGCCCAACGGCTATGGGCTGGCCTACCGCCTGACCCCTGGG GTGCACGAGCTGCCGGTGCAGCAGCCGGAGCACCGCATCCTGAAGGTGTCCATGAAAAGAGCTCAACAAGAAAACC CCTCTCCTCACCGAGGGCCAGGCCATCTGCTTCACCATCCTGGGCGTGCTCACCAGCCTGGTGGTGCTGGGCACT GTGGGTATCGTCTTCCTCAACAAGTGCGAGACCTGGGTGTCCAACCTGCGCTACAACCACATGCTGCGGAAGAAG AAGAACCTGCTGCTTCAGTACAACAGCGGGGAGGACCTGGCCGTCAACATCATCTTCCCCGAGAAGATCGACATG ACCACCTTCAGCAAGGAGGCCGGCGACGAGGAGATCTAAGCAGCGTTCCCACAGCCCCCTCTAGATTCTTGGAGT TCCTCAGAGCTTACTATACGCGGTCTGTCCTAATCTTTGTGGTGTTCGCTATCTCTTGTGTCAAATCTGGTGAAC 

MTATEALLRVLLLLLAFGHSTYGAECFPACNPQNGFCEDDNVCRCQPGWQGPLCDQCVTSPGCLHGLCGEPGQCI CTDGWDGELCDRDVRACSSAPCANNGTCVSLDDGLYECSCAPGYSGKDCQKKDGPCVINGSPCQHGGTCVDDEGR ASHASCLCPPGFSGNFCEIVANSCTPNPCENDGVCTDIGGDFRCRCPAGFIDKTCSRPVTNCASSPCQNGGTCLQ HTQVSYECLCKPEFTGLTCVKKRALSPQQVTRLPNGYGLAYRLTPGVHELPVQQPEHRILKVSMKELNKKTPLLT EGQAICFTILGVLTSLVVLGTVGIVFLNKCETWVSNLRYNHMLRKKKNLLLQYNSGEDLAVNIIFPEKIDMTTFS KEAGDEEI

### 4432/6881 FIGURE 4090A

CTGGTTTCTTGCCTTAAGGAGCCCATTGCCTTTCCCGCTGAAGTCTAGATGTTGACATGTAATAAAGCGGGCAGC AGGATGGTGGTGGATGCGGCCAACTCCAATGGGCCTTTCCAGCCCGTGGTCCTTCTCCATATTCGAGATGTTCCT CCTGCTGATCAAGAGAGCTTTTTATCCAGAAGTTACGTCAGTGTTGCGTCCTCTTTGACTTTGTTTCTGATCCA CTAAGTGACCTAAAGTGGAAGGAAGTAAAACGAGCTGCTTTAAGTGAAATGGTAGAATATATCACCCATAATCGG AATGTGATCACAGAGCCTATTTACCCAGAAGTAGTCCATATGTTTGCAGTTAACATGTTTCGAACATTACCACCT TCCTCCAATCCTACGGGAGCGGAATTTGACCCGGAGGAAGATGAACCAACGTTAGAAGCAGCCTGGCCTCATCTA CAGCTTGTTTATGAATTTTTCTTAAGATTTTTAGAGTCTCCAGATTTCCAACCTAATATAGCGAAGAAATATATT TTTGCCTTACCACTAAAAGAAGAGCACAAGATTTTCTTATTGAAGGTGTTACTACCTTTGCACAAAGTGAAATCT CTGAGTGTCTACCATCCCCAGCTGGCATACTGTGTAGTGCAGTTTTTTAGAAAAGGACAGCACCCTCACGGAACCA GTGGTGATGGCACTTCTCAAATACTGGCCAAAGACTCACAGTCCAAAAGAAGTAATGTTCTTAAACGAATTAGAA GAGATTTTAGATGTCATTGAACCATCAGAATTTGTGAAGATCATGGAACCCCTCTTCCGGCAGTTGGCCAAATGT GTCTCCAGCCCACACTTCCAGGTGGCAGAGCGAGCTCTCTATTACTGGAATAATGAATACATCATGAGTTTAATC ACAATACATGGCTTGATATACAACGCCCTGAAGCTCTTCATGGAGATGAACCAAAAGCTATTTGATGACTGTACA CAACAGTTCAAAGCAGAGAAACTAAAAGAGAAGCTAAAAATGAAAGAACGGGAAGAAGCATGGGTTAAAATAGAA AATCTAGCCAAAGCCAATCCCCAGTACACAGTGTATAGTCAAGCCAGCACCATGAGCATTCCGGTTGCAATGGAG ACAGATGGGCCTTTATTTGAAGATGTGCAGATGCTGAGAAAGACAGTGAAGGACGAGGCTCATCAGGCACAGAAA GATCCGAAGAAGGACCGTCCTCTTGCACGCCGCAAGTCCGAGCTGCCTCAGGACCCCCACACCAAGAAAGCCTTG CCCGCCAGTTCTTTTCCGGATTCTGTAGAAAATACATACTTCCTGTGCCATACCAATCAGTTACACTCAAAGCTT TCTTGGACCCCGTTCCGTAGGCAATAACGTGCGTCCGCCTCAGCGCGAGATTAGGAGTTCAAACAATGGTGACTT CCCAGAGCCCGCTGGCAGAGCCGCGGTTGACGACGGTGTCCTCGCAGTGTCGCCGCCACCCCAGCGTAGTCCAA GTCAGACTATTTCACAAAGTCAGAGCGATAGGAAAGCACCCTGCCCTTCATCTTCATGTTCTCCCAAATGGAACT TAGGATCTTTTAACATAGGTGGTTCTGTGATAACATCAGTGTTTTCCAAATCAAAGGAACGCTTTAAAAAATAGG ACCTATTTTTTAAGACTTTACAGCCTTTGAAATGGTTTCCACGTGATTGTTACGCCAGCAGTTCTCGTTTTGTTT GTTTTTCAATCTCAGTGAAATGGCTCTTTGCTTTCGAGTTCTCACGCAACGTACTGGGCAAATGACAATCCTCAG  ${\tt CCGCTGGTATTTCTAAGGGGTCTCTTCACTTTGATGAGTGACATGAACACCGTGTCTCCTTCTTGTGTGTAC}$ AGATTGCTCTGAAAATTTATCTTAAAAGAGCTTGCTCTGTCTACCTTGACAGAAATTGGAGTTTTAAAATTATGTG TTAATATTTTTATTTGCAGATTTCGTTTCCGTCAACTTAAACATTGTTGCCCTTCAACAAGGCTCTTGAATTAAT AAAATTATAGTCTCTAAGAATTCCACATTTTATGGAAAGTTAGAGCAAAATCATTTTGAGTTAAGCCAGTTCTTA GCCTAATGCAAACTGCAGCGCCTTTAAGCATAAAGTAACACAACAGCATTGCACGGGGCCGGCACTGCCGCTGCC TTCACTGAAGGCTGCAGTGCTGTTCTGAGAGCTTGGAGGAGGCACCAGCGAGGATGACGTTTAGTGGAGCTCTTT CTGTTGAAAAGAGCTCACGTTATCAACACCTTGTAAGGAAAATACAGTGTCTGAGTTTTCATCGGTCTTCACATG CTGCTATATATTCCACAGAGTTCCTTGCATGTACTGAGCTTTTGTTTTAGATGGAATAGCACAAGGAGAAAAATC TTAATGTTAAGTGTCTTGAGGCATAAAAGACAAAATGTGGCTTATTTTAGGATCTGTTTTTTCATCGAGGTCTCG GGTATCCTTTCAAAGATAGTGAGAAGCAGACACTGCTCCTTGTGCAGCTCTGGTACCTCCTGCCCACTGCTGTCA CTTCAAGCCACTGGCAATGCTTCTGTCCTCGTGTCTTGGAGGAAAATCACCTGGGGGGAGGGGACTTCTTGTGGT AAGAGCAAGTGCAGGTATGAAATGCGAAGATTGCCCCAGCTAAAAGTGGACAAGTCCGCTTTGTGAGATGAATAC CTTCTCTTTTGAGGGAAAAAGGGTGCTTTTTATTGTATAAAGCAGCGTCTTATGTATTTTGATATACCATTGTT TGAACTTCCGTCTTTAGCTGATAGATTCTCAAATATCCTTGATTTTTGGATGTTCAGTATGTTTGTGAGAGAGGTT TCTGGGAAGACTCTCTTTTTGCCCTCGGGAAAAAGCAAAATATCAATGTTTGGGTGACTGTGTAAAGCTCAGTGT

#### 4433/6881 FIGURE 4090B

PCT/US2003/028547

## FIGURE 4091

i

CAGTTGCTTCAGCGTCCCGGTGTGGCTGTGCCGTTGGTCCTGTGCGGTCACTTAGCCAAGATGCCTGAGGAAAACC CAGACCCAAGACCAACCGATGGAGGAGGAGGAGGTTGAGACGTTCGCCTTTCAGGCAGAAATTGCCCAGTTGATG TCATTGATCATCAATACTTTCTACTCGAACAAAGAGATCTTTCTGAGAGAGCTCATTTCAAATTCATCAGATGCA TTGGACAAAATCCGGTATGAAAGCTTGACAGATCCCAGTAAATTAGACTCTGGGAAAGAGCTGCATATTAACCTT ATACCGAACAAACAAGATCGAACTCTCACTATTGTGGATACTGGAATTGGAATGACCAAGGCTGACTTGATCAAT **AACCTTGGTACTATCGCCAAGTCTGGGACCAAAGCGTTCATGGAAGCTTTGCAGGCTGGTGCAGATATCTCTATG** ATTGGCCAGTTCGGTGTTTGTTTTATTCTGCTTATTTGGTTGCTGAGAAAGTAACTGTGATCACCAAACATAAC GGTCGTGGAACAAAGTTATCCTACACCTGAAAGAAGACCAAACTGAGTACTTGGAGGAACGAAGAATAAAGGAG ATTGTGAAGAACATTCTCAGTTTATTGGATATCCCATTACTCTTTTTGTGGAGAAGGAACGTGATAAAGAAGTA CCTGAAATTGAAGATGTTGGTTCTGATGAGGAAGAAGAAGAAGGATGGTGACAAGAAGAAGAAGAAGAAGAAGATT AAGGAAAAGTACATCGATCAAGAAGAGCTCAACAAAACAAAGCCCATCTGGACCAGAAATCCCGACGATATTACT AATGAGGAGTACGGAGAATTCTATAAGAGCTTGACCAATGACTGGGAAGATCACTTGGCAGTGAAGCATTTTTCA GTTGAAGGACAGTTGGAATTCAGAGCCCTTCTATTTGTCCCACGACGTGCTCCTTTTGATCTGTTTGAAAACAGA AAGAAAAAGAACAACATCAAATTGTATGTACGCAGAGTTTTCATCATGGATAACTGTGAGGAGCTAATCCCTGAA TATCTGAACTTCATTAGAGGGGTGGTAGACTCGGAGGATCTCCCTCTAAACATATCCCGTGAGATGTTGCAACAA AGCAAAATTTTGAAAGTTATCAGGAAGAATTTGGTCAAAAAATGCTTAGAACTCTTTACTGAACTGGCGGAAGAT AAAGAGAACTACAAGAAATTCTATGAGCAGTTCTCTAAAAACATAAAGCTTGGAATACACGAAGACTCTCAAAAT CGGAAGAAGCTTTCAGAGCTGTTAAGGTACTACACATCTGCCTCTGGTGATGAGATGGTTTCTCTCAAGGACTAC TGCACCAGAATGAAGGAGAACCAGAAACATATCTATTATATCACAGGTGAGACCAAGGACCAGGTAGCTAACTCA GCCTTTGTGGAACGTCTTCGGAAACATGGCTTAGAAGTGATCTATATGATTGAGCCCATTGATGAGTACTGTGTC GAAGAAAAAGAAGCAGGAAGAAAAAAAAAAACAAAGTTTGAGAACCTCTGCAAAATCATGAAAGACATATTGGAG AAAAAAGTTGAAAAGGTGGTTGTCAAACCGATTGGTGACATCTCCATGCTGTATTGTCACAAGCACATATGGC TGGACAGCAAACATGGAGAGAATCATGAAAGCTCAAGCCCTAAGAGACAACTCAACAATGGGTTACATGGCAGCA AAGAAACACCTGGAGATAAACCCTGACCATTCCATTATTGAGACCTTAAGGCAAAAGGCAGAGGCTGATAAGAAC GACAAGTCTGTGAAGGATCTGGTCATCTTGCTTTATGAAACTGCGCTCCTGTCTTCTGGCTTCAGTCTGGAAGAT CCCCAGACACATGCTAACAGGATCTACAGGATGATCAAACTTGGTCTGGGTATTGATGAAGATGACCCTACTGCT GATGATACCAGTGCTGCTGTAACTGAAGAAATGCCACCCCTTGAAGGAGATGACGACACATCACGCATGGAAGAA **GTAGACTAA** 

MPEETQTQDQPMEEEEVETFAFQAEIAQLMSLIINTFYSNKEIFLRELISNSSDALDKIRYESLTDPSKLDSGKE LHINLIPNKQDRTLTIVDTGIGMTKADLINNLGTIAKSGTKAFMEALQAGADISMIGQFGVGFYSAYLVAEKVTV ITKHNDDEQYAWESSAGGSFTVRTDTGEPMGRGTKVILHLKEDQTEYLEERRIKEIVKKHSQFIGYPITLFVEKE RDKEVSDDEAEEKEDKEEEKEKESEDKPEIEDVGSDEEEEKKDGDKKKKKKIKEKYIDQEELNKTKPIWTRN PDDITNEEYGEFYKSLTNDWEDHLAVKHFSVEGQLEFRALLFVPRRAPFDLFENRKKKNNIKLYVRRVFIMDNCE ELIPEYLNFIRGVVDSEDLPLNISREMLQQSKILKVIRKNLVKKCLELFTELAEDKENYKKFYEQFSKNIKLGIH EDSQNRKKLSELLRYYTSASGDEMVSLKDYCTRMKENQKHIYYITGETKDQVANSAFVERLRKHGLEVIYMIEPI DEYCVQQLKEFEGKTLVSVTKEGLELPEDEEEKKKQEEKKTKFENLCKIMKDILEKKVEKVVVSNRLVTSPCCIV TSTYGWTANMERIMKAQALRDNSTMGYMAAKKHLEINPDHSIIETLRQKAEADKNDKSVKDLVILLYETALLSSG FSLEDPQTHANRIYRMIKLGLGIDEDDPTADDTSAAVTEEMPPLEGDDDTSRMEEVD

AGGAGATGAACGAGATTAAGACCCAATTCACCACCCGGGAAGGTCTGTACAAGCTGCTGCCGCACTCGGAGTACA GCCGGCCCAACCGGGTGCCCTTCAACTCGCAGGGATCCAACCCTGTCCGCGTCTCCTTCGTAAACCTCAACGACC AGTCTGGCAACGGCGACCGCCTCTGCTTCAATGTGGGCCGGGAGCTGTACTTCTATATCTACAAGGGGGTCCGCA AGGCTGCTGACTTGAGTAAACCAATAGATAAAAGGATATACAAAGGAACACAGCCTACTTGTCATGACTTCAACC  ${\tt ACCTAACAGCCACAGCAGAAAGTGTCTCTCCTAGTGGGCTTTTCCGCAGGCCAAGTCCAGCTTATAGACCCAA}$ TCAAAAAAGAAACTAGCAAACTTTTTAATGAGGAAAGACTAATAGACAAGTCACGAGTTACCTGTGTCAAATGGG  ${\tt TTCCCGGTTCGGAAAGCCTTTTCCTAGTAGCCCACTCGAGTGGGAACATGTACTTATATATGTGGAGCACACTT}$ GTGGCACCACACCCCCCACTACCAGCTTCTGAAGCAGGGAGAGAGCTTTGCCGTGCACACTTGCAAGAGCAAAT  ${\tt CCACGAGGAACCCTCTCCTTAAGTGGACGGTGGGCGAGGGGGCCCTCAACGAGTTTGCTTTCTCCCCAGATGGCA}$ AGTTCTTAGCGTGCGTGAGCCAGGACGGGTTTCTGCGGGTGTTCAACTTTGACTCAGTGGAGCTGCACGGTACGA TGAAAAGCTACTTTGGGGGCTTGCTGTGTGTGTGTGCTGGAGCCCGGATGGCAAGTACATCGTGACAGGTGGGGAGG ACGACTTGGTGACAGTCTGGTCCTTTGTAGACTGCCGAGTAATAGCCAGAGGCCACGGGCACAAGTCCTGGGTCA GTGTTGTAGCGTTTGACCCTTATACCACTAGTGTAGAAGAAGGTGACCCTATGGAGTTTAGTGGCAGCGATGAGG ACTTCCAAGACCTTCTTCATTTTGGCAGAGATCGAGCAAATAGTACACGGTCCAGGCTCTCCAAACGGAACTCTA CAGACAGCCGCCCGTAAGTGTCACGTATCGGTTTGGTTCCGTGGGCCAGGACACACAGCTCTGTTTATGGGACC TTACAGAAGATATCCTTTTCCCTCACCAACCCCTCTCAAGAGCAAGGACACACAAATGTCATGAATGCCACGA GTCCTCCTGCTGGAAGCAATGGGAACAGTGTTACAACACCCGGGAACTCTGTGCCGCCTCCTCTGCCACGGTCCA ACAGCCTTCCACATTCAGCAGTCTCAAATGCTGGCAGCAAAAGCAGTGTCATGGACGGGGCCATTGCTTCTGGGG TCAGCAAATTTGCAACACTTTCACTACATGACCGGAAGGAGGGCACCACGAGAAAGATCACAAGCGAAATCATA GCATGGGACACATTTCTAGCAAGAGCAGTGACAAACTGAATCTAGTTACCAAAACCAAAACGGACCCTGCTAAAA CTCTGGGAACGCCCCTGTGTCCTCGAATGGAAGATGTTCCCTTGTTAGAGCCGCTGATATGTAAAAAGATAGCAC GGGGAAGGCCTGGTAAAGTGGGCTCATTGTCATCCCCAAGCCAGGCCAGTTCTCCAGGTGGAACTGTAGTGTAGC GACCTCACTGCTGCGCGCACAGTCTCCCGGGACTTGGACTCGAGGGAGTGACGAGGAGGAGGAGCTCCGAGCTGCGCC  ${\tt TGAGCCGTGCCAGCCGGACCTCAGGCGGTGACGTCGGCGATAGCCGTGTGGACGGTGACCGGCTCACTCTG}$ CGGCGCCGTGCTCCCCCAAAGAAGTTGTTTCCATTTTAAACCGGTCTTTTGGGGCTGCAGTAAAAA TATATACATAGTGTAAAAATAAAATGTTTCTTGGACAAGAAATCCCCTGAAATTCAGCTGTTATAGTGCTTCACTG TTTTTGCACTGATTTTTCTATACCTTAGGTGGTCAGAAGACAACCTTGAATGCACTCATAGAGAAAACTGTTACT TTCTGACGTAATGTAATTCAGGAAGACAGACGCTGCAATCACAGATTTTAAAAAATTGTTTGCACTTAAAAAATAG TTGAATGCTGGTGGAAAGTTACTTTGCAGATGGGTGTAAGGACTCATGGCCCTCTGAGGTGCGGCGTGAAGATGC CCTTTTTACCCGTTGACGTTTATTTTACGTAAAATAAACTGTTGTTTCCAATGCAATCAACTCTGTATTATATGT ATAAATATTGTAATTCTGCAATTGGGGAAAATAGTTACTTCACTAGTAATTTTCATCATTTAAGAGTGATATTTC TAATTCACAAAAGTTAATATTAAAACTATCTTGAATAT

### FIGURE 4095

GGATCTCTAACGCTCTCCTTCGAGGGACCACCACGGAGATCCTAGTGCGGGACCCCGCCTCAGGGAAGTGGAAAG CAGGGGGACAACCTTCCTGCTTCCTTCTTTTCCGTCCAGTGTCGGCAAGGGGTTGTCACCGGCTTCCGCATCCAA GATGAAGAACTATAAAGCAATTGGCAAAATAGGAGGGGAACGTTTTCTGAAGTTATGAAGATGCAAAGCCTGAG AGATGGAAACTACTATGCATGTAAACAAATGAAGCAGCGCTTTGAAAGTATTGAGCAAGTCAACAACCTACGAGA GATCCAAGCACTGAGGCGCCTGAATCCGCACCCAAACATTCTTATGTTGCATGAAGTGGTTTTTTGACAGAAAATC TGGTTCTCTTGCACTAATATGTGAACTTATGGACATGAATATTTATGAGCTAATACGAGGGAGAAGATACCCATT ATCAGAAAAAAAATTATGCACTATATGTACCAGTTATGTAAGTCCCTGGATCATATTCACAGAAATGGAATATT TCACAGAGATGTAAAACCAGAAAATATACTAATAAAGCAGGATGTCCTGAAATTAGGGGACTTTGGCTCCTGCCG GAGTGTCTATTCCAAGCAGCCGTACACGGAATACATCTCCACCGCTGGTACCGGGCCCCGGAGTGTCTCCTCAC TGATGGGTTCTACACGTACAAGATGGACCTGTGGAGCGCCGGCTGTGTTCTACGAGATCGCCAGTCTGCAGCC CCTCTTTCCTGGAGTAAATGAACTGGACCAAATCTCAAAAATCCACGATGTCATCGGCACACCCGCTCAGAAGAT CCTCACCAAGTTCAAACAGTCGAGAGCTATGAATTTTGATTTTCCTTTTAAAAAGGGATCAGGAATACCTCTACT AACAACCAATTTGTCCCCACAATGCCTCTCCTCCTGCACGCAATGGTGGCCTATGATCCCGATGAGAGAATCGC CGCCCACCAGGCCCTGCAGCACCCCTACTTCCAAGAACAGAGGAAAACAGAGAGGAGCGGGCTCTGGGCAGCCACAG AAAAGCTGGCTTTCCGGAGCACCCTGTGGCACCGGAACCACTCAGTAACAGCTGCCAGATTTCCAAGGAGGGCAG AAAGCAGAAACAGTCCCTAAAGCAAGAGGAGGACCGTCCCAAGAGACGAGGACCGGCCTATGTCATGGAACTGCC CAAACTAAAGCTTTCGGGAGTGGTCAGACTGTCGTCTTACTCCAGCCCCACGCTGCAGTCCGTGCTTGGATCTGG AACAAATGGAAGAGTGCCGGTGCTGAGACCCTTGAAGTGCATCCCTGCGAGCAAGAAGACAGATCCGCAGAAGGA CCTTAAGCCTGCCCGCAGCAGTGTCGCCTGCCCACCATAGTGCGGAAAAGGCGGAAGA<u>TAA</u>CTGAGCAGCACCGT CGTCTCGACTTCGGAGGCAACACCAAGCCCGACCGGGCCAGGCCTGGGTGATCTGCTGCTGAGACGCCACGGAGG TGTGTTGGGCGTGGTTGGAAGGTGGGTTCTGCGTGTCCCTTCCCAGCGCTGCTGGTCAGTCGTGGAGCGCCATCA AAAA

MKNYKAIGKIGEGTFSEVMKMQSLRDGNYYACKQMKQRFESIEQVNNLREIQALRRLNPHPNILMLHEVVFDRKS GSLALICELMDMNIYELIRGRRYPLSEKKIMHYMYQLCKSLDHIHRNGIFHRDVKPENILIKQDVLKLGDFGSCR SVYSKQPYTEYISTRWYRAPECLLTDGFYTYKMDLWSAGCVFYEIASLQPLFPGVNELDQISKIHDVIGTPAQKI LTKFKQSRAMNFDFPFKKGSGIPLLTTNLSPQCLSLLHAMVAYDPDERIAAHQALQHPYFQEQRKTEKRALGSHR KAGFPEHPVAPEPLSNSCQISKEGRKQKQSLKQEEDRPKRRGPAYVMELPKLKLSGVVRLSSYSSPTLQSVLGSG TNGRVPVLRPLKCIPASKKTDPQKDLKPAPQQCRLPTIVRKGGR

# FIGURE 4097A

CCCCGGCGGAGCCAGCTGCTCTTCGGTGCTGGCCCCGGTGCCGGCCCCGTTGCCCAGGGAACAGGCTCCCG GGAGCCCCAGGTTTCCCTAGATGACAAATAAACATTCCTTTTCCTGCGTGAAGATAGTCTGTGGAAACCTTGGC CATGGCATCGATATCAGAGCCTGTTACATTCAGAGAGTTCTGCCCGTTGTACTATCTCCTCAATGCCATTCCGAC AAAGATCCAGAAGGGTTTCCGCTCTATCGTGGTCTATCTCACGGCCCTCGACACCAACGGGGACTACATCGCGGT GGGCAGCAGCATCGGCATGCTCTATCTGTACTGCCGGCACCTCAACCAGATGAGGAAGTACAACTTTGAGGGGAA GACGGAATCTATCACTGTGGTGAAGCTGCTGAGCTGCTTTGATGACCTGGTGGCAGCAGCAGCCTCTGGCAG GGTTGCAGTTTTTCAACTTGTATCTTCATTGCCAGGGAGAAATAAACAGCTTCGGAGATTTGATGTCACTGGTAT TCACAAAAATAGCATTACAGCTCTGGCTTGGAGCCCCAATGGAATGAAATTGTTCTCTGGAGATGACAAAGGCAA AATTGTTTATTCTTCTGGATCTAGACCAGGGGCTCTGTAACTCCCAGCTGGTGTTGGAGGAGCCATCTTCCAT  ${\tt TGTGCAGCTGGATTATAGCCAGAAAGTGCTGCTGGTCTCTACTCTGCAAAGAAGTCTGCTCTTTTACACTGAAGA}$ AAAGTCTGTAAGGCAAATTGGAACACAACCAAGGAAAAGTACTGGGAAATTTGGTGCTTGTTTTATACCAGGACT TGTTCAAGCCACGTTTATCTTAAAAGATGCTTTTGCCGGGGGAGTCAAGCCTTTTGAACTGCACCCGCGTCTGGA GGTGCTGAGTTGGAATGAATATAGTATCTATCTCCTAGACACAGTCAACCAGGCCACAGTTGCTGGTTTGGAAGG ATCCGGTGATATTGTGTCTGTTTCGTGCACAGAAAATGAAATATTTTTCTTGAAAGGAGATAGGAACATTATAAG AATTTCAAGCAGGCCTGAAGGATTAACATCAACAGTGAGAGATGGTCTGGAGATGTCTGGATGCTCAGAGCGTGT CTCCGTGGCCAGCGAGCCAAGGAGCAGCAGCTCGCTCAACTCCACCGACAGCGGCTCCGGGCTCCTGCCCCC GGACTTTGACCAGGAGCTTGTCGTGAAGCCTATCAAAGTGAAAAGGAAGAAGAAGAAGAAGAAGAAGAAGGTGG AAGCAGGAGCACCTGTCACAGCTCCCTGGAATCGACACCCTGCTCCGAATTTCCTGGGGACAGTCCCCAGTCCTT GAACACAGACTTGCTGTCGATGACCTCAAGTGTCCTGGGCAGTAGCGTGGATCAGTTAAGTGCAGAGTCTCCAGA CCAGGAAAGCAGCTTCAATGGTGAAGTGAACGGTGTCCCACAGGAAAATACTGACCCCGAAACGTTTAATGTCCT GGAGGTGTCAGGATCAATGCCTGATTCTCTGGCTGAGGAAGATGACATTAGAAGTGAAATGCCACACTGTCACCA TGCACATGGGCGGGAGCTGCTCAATGGAGCGAGGGAAGATGTGGGGAGGCAGTGATGTCACGGGACTCGGAGATGA GCCGTGTCCTGCAGATGATGGACCAAATAGCACAGTTACCCTTCCAAGAACAGGACAGCTCTCCTGGGGCGCA TGATGGGGAAGACATCCAACCCATTGGCCCCCAAAGCACTTTTTGTGAAGTCCCCCTCCTGAACTCACTGT GCCTTCCAGCCTCAGCTGGGCCCCAAGTGCTGAACAGTGCCTGGGACCAGAGCTGATGAAGGCAGCCCGT GGAGCCCAGCCAAGAGCAGGACATCCTAACCAGCATGGAGGCCTCTGGCCACCTCAGCACAAATCTCTGGCATGC TGTCACTGATGATGACACAGGTCAGAAAGAAATACCCATTTCTGAACGTGTCTTGGGGAGTGTGGGAGGACAGCT GACTCCGGTCTCTGCCTTGGCAGCCACCACACACCCCTCACAAGCCCTCGAGCAGCCTCCACGGGATCAGACATTGAC ACCTAGTTGCTCCCAGCAGGACCTGAGCCGGCTGGGTGCAGAGGACGCCGGGCTGCTCAAGCCAGATCAGTTTGC AGAAAGCTGGATGGGCTACTCGGGTCCCGGCTATGGCATCCTCAGCTTGGTGGTCTCCCGAGAAGTATATCTGGTG CCTGGACTACAAAGGCGGCCTGTTCTGCAGCGCGTTGCCGGGCGCGGGCTGCGCTGGCAGAAGTTTGAAGATGC TGTCCAGCAGGTGGCAGTCTCGCCCTCAGGAGCCCTTCTCTGGAAGATTGAACAGAAATCTAACCGGGCTTTTGC TTGTGGGAAAGTCACCATCAAGGGGAAGCGGCACTGGTACGAAGCCCTGCCCCAGGCAGTGTTTTGTGGCCCTGAG CGATGACACGGCCTGGATCATCAGGACCAGTGGGGACCTATACTTGCAGACAGGTCTGAGCGTGGATCGCCCTTG TGCCAGAGCCGTAAAGGTGGACTGTCCCTACCCGCTGTCCCAGATCACAGCCCGGAACAATGTGGTGTGGGCGCT GACAGAGCAGAGGGCCCTCCTGTACCGGGAGGGCGTGAGCAGCTTCTGTCCGGAAGGCGAGCAGTGGAAGTGTGA CATTGTCAGCGAAAGGCAAGCTTTAGAACCCGTCTGCATAACGCTCGGGGATCAGCAGACTCTCTGGGCCCTGGA CATCCATGGGAACCTGTGGTTCAGAACTGGCATTATTTCCAAGAAGCCCCAAGGAGATGACGACCATTGGTGGCA GGCCACAGCCCCAAGCCCCCGTAGAAAAGGTGGCAGATAAGCTGCGCATGGCGTTTTGGTCCCAGCAGCTTCA TAAGGGAAGTCTCATAGGCACCTACTGGAATCATGTGGTTCCCCGTGGGACAGCTTCTGCTACAAAATGGGCCTT

# FIGURE 4097B

 $\tt CGTCAGCGCCCAGAGCGCACAGTCGCGGCCCTCCACGGTGCAGCTGCCTCCCGAAGCCGAGATGCGCGCCTATGC$ CGCCTGCCAGGATGCGCTGTGGGCGCTGGACAGCCTCGGCCAGGTGTTCATCAGGACGCTCTCCAAGAGCTGCCC CACGGGCATGCACTGGACCAGGCTGGACCTCTCCCAGCTAGGAGCTGTAAAATTGACAAGCTTGGCATGTGGAAA TCAGCACATCTGGGCCTGTGATTCCAGGGGTGGAGTTTACTTCCGTGTAGGGACTCAGCCTCTCAATCCCAGTCT CCCCAACGACCAGATGCTGTGGGTGCTTGACAGCAGGTGGAACGTGCACGTGCGGACCGGGATCACCGAGGAGAT GCCTGTGGGGACCGCCTGGGAGCATGTGCCAGGGTTGCAGGCCTGCCAGCTGAGCACCAGGACCGTGTG GGCCCGCTGTCCAAACGGAGACCTCGCCCGGCGGTACGGCGTCACAGACAAGAACCCCGCCGGGGACTACTGGAA CCTCCTCCAACGGCTGACAAAGACGTTCAGCCACTCGCACGGCACCCAGAAGAGCAGCCAGGCCGCCATGCCCCA CCCTGAGGACCTGGAGGACGAGTGGGAGGTCATCTGAAGGAGCCCTGGCCGAGTCACGCGGAGGGGCCCGGCGTC TGTGGCGGGCACAGGGGCTTCAGAGTGACTCCCTGGTGGACGCGCTGCCTCAACACTTGTCCAGACACCTCTGGC CAGGTTGGACCCGCACACTTACTTTCATCTATGTTGGTTTCTGTTCCAGAACCCACAGCCTCCACCCGTG TACCCACGTGCTGCCGTCCTGGTCTCATCCACAGATAGCTCCAGCTTTTGTTGGTGGGAGTGGTCTCCGGAGGCC GGAGCCAAAGGTCAGCTCTCTGCAGCGCGGGATGTGCTCGGTGATGGCTTTGTCCCATCATAGGGGGGTGTCCCC CCAGAGACAAAGCTGCAGAGCACATTCCATGCCAGACGCTCTGGCCAGGAAGCTGAGGCCGGGCTTGAGAGGAGA CACCACACCTCACTGCCCACACACGGCGCAGGCTGCCCGCCTCCTGGAGAGCACACTTCAGCTGAAACAGTAAAG  $\verb|CCTGATGGGTGCAAATGGAACCTGGATGTGTGCACGTGTGTCCCAGGTAGGGACGGCACAGGAGGGTGCATGGGG\\|$ CGTGGGGGAGCTGAGCAAGGGTCGCTCACTTAGAAATGTCTTTGGAATGGTGTTTTAACTAATGCTGCTGGCGGAC ATCCTAAAACCAGATGCATCCTCAGAGGACGAGTCTACTAATTATTGCCTTTGTTGTTGTTATTACAAATCTGCAT AAAATACCTCATTTCAAATCAAATCTTACAAATTTAGAAGAGAGATATGTTTTCCGAAAACAGTGGAAGCCCTTT CTTGACTGGCAGGCGGTCACGGGACCTGCGGGCTGGCTCCGAGTGGCAGCCCATGCCTTCTGCGGGGTATGGGT  ${\tt TGACACTTGACAGGTTGAAACCAGTGCCTCTATGGACGGCTGCTGTGGCCCCTTCAGACAATGGGCAGTGCCCAC}$ CCCGCCCACTGGCATCTGCGTGTGAGGGCTAGGCCGCCCTGCCACACATCCCGCCCCCTCCCGGAGGCAGCTTCA GGACAGGACACCAGGCTGGCTGTTTTTTTAGCCTGCCCCTGGCCCAGGCCCAGTCCTTGGTGTCAGGGAGCCCC GTCCAAATGAGGTCAAGATGCCGAAATCCCAGATCTGACTTCACACTTCCCTTTTCTAGAACCTTTTGTAAAAGT TGGTGGCAGCAGAGGCAGCCCCAGGCCGGGCTGCATCTCTCTGTGTCTGTTGTGCCTTGCCCGGCGCCTCACGGA TGGCAAAGCTCTCCTCACCCATGGGACTGTAGTGCAATTAAACCCGCGTCTAGGTGATGCTTTTAAAGTTGTAGC TTCGTGCTTTGTACAGTTTTCTTCTGGTTTTAATTTTTAGTTGTGCTTTGAGTCAGTGCAATAAACTAGACTTT TTCC

### 4442/6881 FIGURE 4098A

AGCTTGAGCGCGGCGCGCGTTGTTCAGTCAGAGCGAGAACATTCCAGAGGTCGCCCAGCTCCGGCGCTGACGG GTGTGGACCGCGGACGTCGCTGGGACAGCCCCTCCCCGCTGCTCGGCGGCGCATCTGGCCCGGCCGCTCCTCGC TGCGCTTCGCCTCCTCGGACTCGGACTCGGGTTTATATCGCGCCTCACTTCATCCCAGTCCCGGGCGAG CAGCGTTGGGTTTATGTCTTTATTTGACGAAAACGAGCTGTTGCGCAGCCATTGGTACCTGTATTGGGGAAACAT AGCATACAAGCAAGAAGCTTACAGCCTCAGTGGCGAAAATTTTTTCATGTCAGAGACCGAGAACTCTTGCAGTCG TTTATGTCATCCCTTCTTCTCCAGACAGAAGATACCAAAAAGTTGCAATCAAAGATCTCTTCATCTTATTGATAA AGCCACTAATAAGCCAAA<u>ATG</u>TCTGTCAATGTCAACCGCAGCGTGTCAGACCAGTTCTATCGCTACAAGATGCCC CGTCTGATTGCCAAGGTTGAGGGCAAAGGCAATGGAATCAAGACAGTTATAGTCAACATGGTTGACGTTGCAAAG GCGCTTAATCGGCCTCCAACGTATCCCACCAAATATTTTGGTTGTGAGCTGGGAGCACAGACCCAGTTTGATGTT AAATTTGTTCTCTGTCCTGAATGTGAGAATCCTGAAACAGATTTGCATGTCAATCCAAAGAAGCAAACAATAGGT AATGGCTCCGTATCCAGCAGTGAGACACCACCACCACCACCACCACAAATGAAATTAATCCTCCTCCACATACA ATGGAAGAAGAGGAGGATGATGACTGGGGAGAAGATACAACTGAGGAAGCTCAAAGGCGTCGAATGGATGAAATC AGTGACCATGCAAAAGTTCTGACACTCAGTGATGATTTGGAAAGAACAATTGAGGAGAGGGTCAATATCCTCTTT GATTTTGTTAAGAAAAAGAAGAAGAGGGTGTTATTGATTCATCTGACAAAGAAATCGTTGCTGAAGCAGAAAGA CTGGATGTAAAAGCCATGGGCCCTCTTGTTCTAACTGAAGTTCTTTTTAATGAGAAGATTAGAGAACAGATTAAG AAATACAGGCGCCATTTCCTACGATTTTGTCACAACAACAAAAAAGCCCAACGGTACCTTCTTCATGGTTTGGAG TGTGTGGTAGCAATGCATCAAGCTCAGCTTATCTCCAAGATTCCACATATCTTGAAGGAGATGTACGATGCAGAC CTTTTAGAAGAAGAGGTCATCAGCTGGTCGGAAAAGGCCTCTAAGAAATATGTCTCCAAAGAACTTGCCAAA GAGATTCGTGTCAAAGCAGAACCATTTATAAAATGGTTGAAGGAGGCAGAGGAAGAATCTTCTGGTGGCGAAGAA GAAGATGAAGATGAGAACATTGAGGTGGTGTATTCGAAGGCTGCCAGTGTACCGAAAGTTGAGACTGTAAAGTCA ACTTTACACTAAAAATCTATTACTGTGAGTGGTCTGTTATTAAGCCCAATGAGACATCTAGGGAGTCCATACACA TCAGTGAGCAGATGTAGTTTGCTTATTTATAGCATGTTTCTTTTTGAAAAACTAGTGGTGGACACATTTGGATCA CATTTATACAGTTATAAAAATAAAGGTTTGATTTTGGTCGTTCTTCAGATGTTTTGGCTCTGAATGACTTAAGCTG AAGTAACTGGCTCCTTACTTTAAATGTTCTGCCATCATTTCACCTGATGAGCATTCTTGGAGCCTGCCAGATATT ATTAAGAAAGTACTAAAGTTTTATCTCTGTAGTTCCTCAAATTGGCATCTGGTAATGTACATTGTGAGGTAGACT AGGATTTGAAACTTGGAGAGCTGTTTTCTCATTTCATGTACACTTGCCCCAAATTGTCTTTGAAGTCGTGTGCAT AGCAACCTAAGCATGATTTTTCAGCTTTTGCCCTTAGGGTTTAAATTACAATTCCAAAATGTTAGACATACTGTA TTTTTCGTTCAGTGTGGCTTTAATTTTCCCCTCTTGCAGTTTGTTCTGTAATGCCTTTTACATTTGGACACATA ATTTTGGTGTAAGACTTGGGATATTTTTTACTTCACATTGAATATAGCCAGGCACCCAAGAAGTCTGATGGCCAC CTGAGTGCAGGTGACAAGGACCTGACAGAGCCCATGCAGGGCTTTAGATTTGGACACACAAGAGTTGATAACTTC CTCATGAACTCCTTGCCTGATCTAAACTCATATTATGGGTTCTGACTGTTTGAGTAATCGTCTTCAAGGTTAAAC CTCTTGGCAGTTACCCTTTTCACAAAGTGCACAGTGGGAATCGAGAATCGATAGGGTTAATTTTGGAGCAGTGGC TTATACCATTCACCTCTGTTTTTTTGTGATTATTTCACAGATAATGAGACCTTAATAACAAATAGGCGTAAAAAA TAGCAATCTTATTGGAGAGACAAGAATTGGTCTCCAGCTGCCTTTGATCAAGATTCGGGTGCAAGTGGAGCAGGA GGTTTCAAATTCTTTGCCGCAAGGCTGATCTGCTTTCATTAACTGGAATTCTGTAGGAGATACTGGTGACCTAAG

# FIGURE 4098B

WO 2004/030615 PCT/US2003/028547

## 4444/6881 FIGURE 4099

MSVNVNRSVSDQFYRYKMPRLIAKVEGKGNGIKTVIVNMVDVAKALNRPPTYPTKYFGCELGAQTQFDVKNDRYI VNGSHEANKLQDMLDGFIKKFVLCPECENPETDLHVNPKKQTIGNSCKACGYRGMLDTHHKLCTFILKNPPENSD SGTGKKEKEKKNRKGKDKENGSVSSSETPPPPPPPPNEINPPPHTMEEEEDDDWGEDTTEEAQRRRMDEISDHAKV LTLSDDLERTIEERVNILFDFVKKKKEEGVIDSSDKEIVAEAERLDVKAMGPLVLTEVLFNEKIREQIKKYRHF LRFCHNNKKAQRYLLHGLECVVAMHQAQLISKIPHILKEMYDADLLEEEVIISWSEKASKKYVSKELAKEIRVKA EPFIKWLKEAEEESSGGEEEDEDENIEVVYSKAASVPKVETVKSDNKDDDIDIDAI

# FIGURE 4100

GCCCGCCGCCATGCCTTCTCCAACAGCCACAACGCACTGAAGCTGCGCTTCCCGGCCGAGGACGAGTTCCC CGACCTGAGCGCCCACAACAACCACATGGCCAAGGTGCTGACCCCCGAGCTGTACGCGGAGCTGCGCGCCCAAGAG CACGCCGAGCGGCTTCACGCTGGACGTCATCCAGACAGGCGTGGACAACCCGGGCCACCCGTACATCATGAC CGTGGGCTGCGTGGCGGCGACGAGGAGTCCTACGAAGTGTTCAAGGATCTCTTCGACCCCATCATCGAGGACCG GGACCCCAACTACGTGCTGAGCTCGCGGGTGCGCACGGGCCGCAGCATCCGTGGCTTCTGCCTCCCCCCGCACTG CAGCCGCGGGGAGCCCCCCCATCGAGAAGCTCGCGGTGGAAGCCCTGTCCAGCCTGGACGGCGACCTGGCGGG CCGATACTACGCGCTCAAGAGCATGACGGAGGCGGAGCAGCAGCACCTCATCGACGACCACTTCCTCTTCGACAA GCCCGTGTCGCCCTGCTGCTCGCCTCGGCCATGCCCCGCGACTGCCCCGCGCTATCTGCCACAATGA CAATAAGACCTTCCTGGTGTGGGTCAACGAGGAGGACCACCTGCGGGTCATCTCCATGCAGAAGGGGGGCAACAT GAAGGAGGTGTTCACCCGCTTCTGCACCGGCCTCACCCAGATTGAAACTCTCTTCAAGTCTAAGGACTATGAGTT CATGTGGAACCCTCACCTGGGCTACATCCTCACCTGCCCATCCAACCTGGGCACCGGGCTGCGGGCAGGTGTGCA TATCAAGCTGCCCAACCTGGGCAAGCATGAGAAGTTCTCGGAGGTGCTTAAGCGGCTGCGACTTCAGAAGCGAGG CACAGGCGGTGTGGACACGGCTGCGGTGGGCGGGTCTTCGACGTCTCCAACGCTGACCGCCTGGGCTTCTCAGA GGTGGAGCTGGTGCAGATGGTGGACGGAGTGAAGCTGCTCATCGAGATGGAGCAGCGGCTGGAGCAGGGCCA GGCCATCGACGACCTCATGCCTGCCCAGAAATGAAGCCCGGCCCACACCCGACACCAGCCCTGCTGCTTCCTAAC TTATTGCCTGGGCAGTGCCCACCATGCACCCTGATGTTCGCCGTCTGGCGAGCCCTTAGCCTTGCTGTAGAGAC TTCCGTCACCCTTGGTAGAGTTTATTTTTTTGATGGCTAAGATACTGCTGATGCTGAAATAAACTAGGGTTTTGG CCTGC

AGGACGGCGGGAAGAGGAGTGCGGAACCCGCGGGAGGATGTGCACAGAGGGCCCCAGGAGGAGCCTCAGGAGCCGG ACTGCCGTTGGCCAACCGAGTCCCCAGGGAGACACTTAAGGGAAATTAAACTGCAGAGTGCAAGAGATGCCTCAG TCAAGTCAGCCAAAAACCCGGGGTCATCCCCAAGCCCCAGAGAGTGACAGAGCCCCGATGACACGGACACCTCG GCTGCTGTCACTTCCCTGGTTCGGGCCTCCCACAGGCTTTGAATTGAAGGCGAGTGCCTCAGAATTTGCATCCAT TGTTCTGTCTTTCCTGGGAAGTTATTCATCCTGGTGGCCAGCCCACCGACAAAATGGATTTGGATCTACTGGACC TGAATCCCAGAATTATTGCTGCAATTAAGAAAGCCAAACTGAAATCGGTAAAGGAGGTTTTACACTTTTCTGGAC CAGACTTGAAGAGACTGACCAACCTCTCCAGCCCCGAGGTCTGGCACTTGCTGAGAACGGCCTCCTTACACTTGC GGGGAAGCATCCTTACAGCACTGCAGCTGCACCAGCAGAAGGAGCGGTTCCCCACGCAGCACCAGCGCCTGA GCCTGGGCTGCCCGGTGCTGGACGCGCTGCTCCGCGGTGGCCTGCCCCTGGACGCATCACTGAGCTGGCCGGAC GCAGCTCGGCAGGAAGACCCAGCTGGCGCTGCAGCTCTGCCTGGCTGTGCAGTTCCCGCGGCAGCACGGAGGCC TGGAGGCTGGAGCCGTCTACATCTGCACGGAAGACGCCTTCCCGCACAAGCGCCTGCAGCAGCTCATGGCCCAGC AGCCGCGGCTGCGCACTGACGTTCCAGGAGACCTGCTTCAGAAGCTCCGATTTGGCAGCCAGATCTTCATCGAGC ACGTGGCCGATGTGGACACCTTGTTGGAGTGTGTGAATAAGAAGGTCCCCGTACTGCTGTCTCGGGGCATGGCTC GCCTGGTGGTCATCGACTCGGTGGCAGCCCCATTCCGCTGTGAATTTGACAGCCAGGCCTCCGCCCCCAGGGCCA GGCATCTGCAGTCCCTGGGGGCCACGCTGCGTGAGCTGAGCAGTGCCTTCCAGAGCCCTGTGCTGTGCATCAACC AGGTGACAGAGGCCATGGAGGAGCAGGGCGCAGCACACGGGCCGCTGGGGTTCTGGGACGAACGTGTTTCCCCAG TCGGCTGCCCAGCCCGGACCCTGCGGGTGCTCTCTGCCCCCCACCTGCCCCCCTCCTCTTCCTACACGATCA AGAAGCCCCGACACGCGGCCTCGGGCCTTTAAAACGCGTCTGCCTGGGCCGTGGCACAGCTGGGAGCCTGGTTC AGACACAGCTCTTCCAGGGCAGCGGCTCCACTTTCTCATCCGAAGATGGTGGCCACAGACTGACCCCCATCTGAG CTGGGGGGATGTTCTGCCTCCCTGGGTCTGGGGACAGGCCCGCTTGCTGGGTACCTGGTCCCCACTGCTGAGC TGGCCCTTGGGGAGAGGTGATTCTCAGGGCTGGAGCCTGGGGTGTCCTACAGTGACTCCCTGGGAGCCGCCTGCT TCTTCTCTCCATATGGAAGCCCAACTGGGGTTGCGTCTGAGGCCTGCCCCCTGGGCTGGGGCCTCAGACCCCCTC AGCCTTGGGACCGTGCCCACGAGGGTCTTCCCTCCTGCACACAGGGCAGTCCTTACTCCCCCACCACTCAGGCCA CAGTGGGGCTGCAGGCAGCCGCCTCCTCACCCACCTCTGGGTCCTTGGCTCCCGGGGGCCCCACCTCGGCAC ACACTGTGCCCCACAAAACTTCAGTGTGGTACAAGGTGGAGAAAGCATATCCCACCAACCTCCAGTGTCAGGGTC GAGCGCAGGCAGGGCTGGCACGTGACAGGCTCGTCAGCCACCTGGGAACACAGTTCTGGGCAAAGAGGAT CCGAGGTTGAGAGGAGGGGTCCCGGTGTATCCTGGCCCTGGGGGTCTGGGCGTCCAGCTCAGCCCTGGCCTG GCTGGGTGGTATTCTGGTAGGGATATGGCAGGACTCCTGGCAGGCCCACCTGCAGGACCCTGTCCTGCAGTCCCA CTGGCTGCACAGGCTGAAATATCCACCCAGCAGGCAGAGTGGCGTGGCCTCCCCATGGGCACAGTGGTGACCCCC TTGATTCCCACCGTACAACCCCCTCCACCCCCACTCAGTGCCTCCACATGCTGCCTGGCACAGACCAGGCCTTT 

MDLDLLDLNPRIIAAIKKAKLKSVKEVLHFSGPDLKRLTNLSSPEVWHLLRTASLHLRGSSILTALQLHQQKERF PTQHQRLSLGCPVLDALLRGGLPLDGITELAGRSSAGKTQLALQLCLAVQFPRQHGGLEAGAVYICTEDAFPHKR LQQLMAQQPRLRTDVPGELLQKLRFGSQIFIEHVADVDTLLECVNKKVPVLLSRGMARLVVIDSVAAPFRCEFDS QASAPRARHLQSLGATLRELSSAFQSPVLCINQVTEAMEEQGAAHGPLGFWDERVSPALGITWANQLLVRLLADR LREEEAALGCPARTLRVLSAPHLPPSSCSYTISAEGVRGTPGTQSH

#### 4448/6881 FIGURE 4103A

 ${\tt CAGGTGATCCTCTACGATCCCGCCGCTCCCCCAGGCAGCGCAGGCCCCCGGCGAGCCGCCACTGCTGCAGTT}$ CCCAAGATGTTTGCCTTCGATGCCGTCTTCCCCCAGGACTCCGAGCCGAAGTCTGCTCGGGGACCGTGGCC GACGTGCTCCAGTCGGTGGTCAGTGGGGCTGATGGCTGCATTTTTTCCTTTGGCCACATGAGCCTGGGCAAGTCG TACACCATGATCGGGAAGGACAGCTCACCCCAGAGCCTGGGCATCGTGCCCTGCGCCATCTCCTGGCTCTTCAGG GACCAGAGCCTGCGGGACCTGCTGGCCGAGGTGGCCCCTGGCAGCCTCCAGGACACCCAGTCTCCGGGAGTGTAC CTGCGGGAGGACCCCGTGTGTGGGGCGCAGCTCCAGAACCAAGCGAGCTGCGGGCACCCACGGCCGAGAAGGCG GCTTTCTACCTGGATGCGGCCCTGGCGGCCCGCAGCACCAGCGGGGCTGTGGCGAGGACGCCCGACGCAGC TCCCACATGTTGTTCACGCTGCACGTCTACCAGTACCGCATGGAGAAGTGCGGCCGGGGAGGAATGTCCGGAGGC CGCAGCCGCCTGCACCTCATCGACCTGGGCAGCTGTGAGGCGGCGGCTGGCAGGGCCGGGGAGGCTGCTGGGGGT CCCCTGTGTCTGTCCGTCGGCCCTGGGCAGCGTCATCTTGGCCCTGGTCAACGGAGCCAAGCATGTGCCGTAT AGGAAGAAGGCCAAGTACGCCTCCAGCTCCTCTGGCGGGAGAGCTCCTGTGAGGAAGGCCGGGCCCGTCGGCCC CCGCACCTGCGGCCCTTCCACCCACGCACTGTGGCCCTGGACCCCGACCGCACGCCTCCCTGCCCGGTGAC CCCGATTACTCCTCCAGCAGCGAGCAGTCCTGTGACACGGTCATCTACGTGGGGCCCGGTGGGGCGGCGCTGTCA GACCGGGAGCTCACCGACAACGAAGGTCCGCCTGACTTCGTGCCCATCATCCCTGCCCTGAGCCGCCACCGGCCC TCCAAGGGTCCCCGAGACCACTTCCGCTGCAGCACCTTCGCGGAGCTGCAGGAGCGGCTGGAATGCATG GACGGCAACGAGGGTCCCTCAGGAGGTCCAGGTGGCACCGACGGAGCTCAGGCCAGCCCCGAGGGGGGCCGG AAGCCCTCGCCACCAGAGGCTGCATCCCCCAGGAAGGCTGTGGGCACCCCGATGGCTGCCAGCACCCCTCGAGGC GCACGGACCCCTCCCGTGGGCATGAGTGGGCAGGTGGCTGGGTCCCCGATGCTTCCTGGGGCCACCTGCCCCGC CTGGCTGCTGGCAGTCGCTGTCCGGAGCGGGCCTGCTCACCACACTGACCCTGCAGCGGCCAGTGGAGCTC AACGGCGAGGACGAGCTGGTGTTCACGGTGGTGGAGGAGCTGTCCCTGGGGGGCGCTTGCCGGAGCTGGGCGGCCC AGCAGCATCAATGATGAGGTTTGACGCCTACACCTCTCAGGCCCCTGAGGGGGGGCCCCTGGAGGGGGGCAGCCTGG GCCGGCAGCAGTCACGGCTCCTCCATCAGCTCCTGGCTCAGCGAGGTCAGCGTCTGCACTGCCGACAGCCGTGAC CCCACGCCGCAGCCCCGCTTCAGCCCCGACTCGCTGGCAGGCTTGACCCTGGGGGCCCCCCTGCCCTGGATGGT CCTGGGGAAGTGGCTGCAGTGGCCCCATCCCGACCCGGCAGGAGCCCCAGGCCGGGCCCTCGCGGTGGGCATCC GCAGCCCAGACCATCCACTCCAGCCTCCCCGGAAACCGAGGACTGCCTCTGCCACCACCCGTGTGGGCTGTGCT CGCCTGGGCCAGAGCCCACCTGGCCGTGGAGGCCTGTTTGAGGACCCATGGCTGCTCCGGGTAGGGGAGTGTGAT ACCCAGGCAGCTTCTGCTGGCAGGGCCCCAGCCCCACACTTGGCTCCCCCGGCTGCCTGAGGCCCAGGTGATG CTAGCCTGTGCCCAGAGAGTGGTGGACGGTGTGAGGTGGCAGCCAGGCCGCAGGCCAGAGGCTGTGGCT CGGATCCCACCGCTGCGGAGGGGTGCCACCACGCTGGGTGTGACAACGCCAGCTGTGTCCTGGGGAGATGCTCCC ACGGAGGTGGTGGCCTCCGGGGAGCCTGAAGGCCTCCCCACCAGCAAGAAGGGTCTGGCTCCCAAGGCGGGC CCCAGACCCAGCAGCCGGCTGACCACTCTGTCCCCAGGGCCACGTCCAGCCTGAAGGCCCGGGCCAGCAAGGTA GAAGCGGCACACCGTCTCGCCGGACACGCGTCTCTGGAGCGGTACGAAGGCCTGGCGCACAGCAGCAGCAAGGGC CGGGAAGCCCCTGGGCGCCTCCCCGGGCTGTACCCAAGCTGGGTGTGCCACCCTCCAGCCCCACACACGGTCCA GCTCCCGCCTGTAGGAGCGGCGCAAGGCTGTGGGGGCCCCCAAGCCCCCTGTTGGTGGAGGCAAGGCCCGT GGCCTAGTGGCTGGTGGGCCTCTGGGGCCTTCGGTGAAGCTGTCTACGGCCTCTGTGACGGCAGGAGC CCTGGCGGCCCTGTGGCAGGTCCCAGAGCAGCCCCACGGGCCGAGTGTCGGGGCGAAGGCTGGCCGGGGT ACCGTCATGGGCACAAAGCAGGCGCTCCGGGCTGCTCACAGCCGCGTCCATGAGCTGTCAGCCAGTGGAGCCCCG GGCCGGGGTGGCTCCTCGTGGGGCTCGCCGGACTCAGACAGCGGCCATGACAGCGGCGTGAACGTGGGGGAGGAG

#### 4449/6881 FIGURE 4103B

CGGCCACCCACGGCCCGGCCCTGCCCTCCCCCTACAGCAAGGTGACCGCCCCACGGCGCCCCAGCGCTACAGC AGCGGCCATGGCAGCGACAACAGCAGCGTGCTGAGTGGAGAGCTGCCGCCCATGGGCCGCACCGCCCTTTTC CACCACAGCGGTGGCAGCAGCGGCTATGAGAGCCTGCGGCGCGACAGCGAGGCCACCGGCAGCGCCTCCTCCGCC ·CCTGACTCCATGAGCGAGAGTGGGGCTGCCTCCCCAGGCGCCCGCACCCGCAGCCTCAAGTCCCCCAAGAAGAGG GCCACAGGTCTGCAGCGGCGCGCCTGATTCCCGCCCCACTGCCCGACACCACTGCCCTGGGCCGTAAGCCCAGC CCGGAGCTGGAGCCCGAGTCGCCGAGTACCTGGCGGCCCTGGAGCCACGGCGGCCCTGGAGCAGTGCGTG AACCTGTGCAAGGCGCACGTCATGATGGTCACCTGCTTCGACATCAGCGTTGCAGCCAGTGCTGCCATCCCGGGG GGGACGGAGCGAGGATGTGGTGGGGGCTGCGGGGGGAGGATGCGGAGGGGTTTCTGTGCAGGACGGGAGTCTCAG AGAGGAGACGGAGTGTGGGGGAGGGAGGGCCGCCACGCGGTGGACAGAGCGAGGGTGCCAGGGTGACCCGAAGA CCGTCACCACCCGACAGCAACGCAAGTGCCTTTGACCTTGATTTGGACTTTTCTCCCTTTTTGCATTTGGTGCTAC AGACTTGAGACACCAGCAGAAGTTGTGTTCAGCCCGGCCCCGCTGCGCCTGTCCGGGCCGGGGCTGGCGCCGGTT GTGTTTGTGTCCACCTTGCCTTCTTTGCAGCCAAGCAGTTTTTGTGGAGTGGGACTTACCTGCACGCCCCAGGGG TCTTTCAGGATTCAGGATGACTTTTCTTTTACAATGGTTTCCTCTCGGCAGAGCCCGGGTTGTGGGGGGATCTGTG AACCTGCTCTGTCCCGAGGGCAGCTAACAAGGGCTGAGCCCCAGGTACAGGTTGCCTCCTCCACGGCAGGAATTT GGTTCTGTTAGGTTCATATTTTTATATCATTTTGCCCATAAATGCGGAATTTGCCGTGGGAATTTGAAGACAAAT GATCTATGTTTTTATGGTTTTCTAGGGAAGGTGTTCTGGGGGGCCGGGCTCTCTCCAGCTGTGGGAGGCCTGCTCC CTCTGGGGGGCACCCTGGGCAGGGTGGGGGGGCCTTGGGAGGCGCTTCTTGCCAAATGCAGACGAGGGGTGAGCC TGCCAGCGTTTGCGACGTCCCGCACGACAGGCTCATACTTTCTGAGGATCGTGCATAGCATAGGACGTCTGAAC CTTTGTACAAATGTGTAGATGACATCTTGCTACAGCTTTTATTTG<u>TGAA</u>TTAAAGATGCATTGATGGTT

MHLLQAPASHEDLDAPHGGPSLAPPSTTTSSRDTPGPAGPAGRQPGRAGPDRTKGLAWSPGPSVQVSVAPAGLGG ALSTVTIQAQQCLEGMWSVSRVNSFLPPACLAEAAVAAVAVADTVRECPPVAGPDGLSKAWGRGGVCTSALVTPT PGSVGGSTGPSAAASFFIRAMQKLSLASKRKKPHPPPPPATRGTSTYPTDFSGVLQLWPPPAPPCLLRAASKTKD NPGSIGKVKVMLRIWPAQGAQRSAEAMSFLKVDPRKKQVILYDPAAGPPGSAGPRRAATAAVPKMFAFDAVFPQD SEQAEVCSGTVADVLQSVVSGADGCIFSFGHMSLGKSYTMIGKDSSPQSLGIVPCAISWLFRLIEERRERTGTRF SVRVSAVEVCGRDQSLRDLLAEVAPGSLQDTQSPGVYLREDPVCGAQLQNQSELRAPTAEKAAFYLDAALAARST SRAGCGEDARRSSHMLFTLHVYQYRMEKCGRGGMSGGRSRLHLIDLGSCEAAAGRAGEAAGGPLCLSLSALGSVI LALVNGAKHVPYRDHRLTMLLRESLATAGCRTTMIAHVSDAPAQHAETLSTVQLAARIHRLRRKKAKYASSSSGG ESSCEEGRARRPPHLRPFHPRTVALDPDRTPPCLPGDPDYSSSSEQSCDTVIYVGPGGAALSDRELTDNEGPPDF VPIIPALSRHRPSKGPRDADHFRCSTFAELQERLECMDGNEGPSGGPGGTDGAQASPARGGRKPSPPEAASPRKA VGTPMAASTPRGSSGPDTHQGTPEPCKAIVWGDQREDSSAWPELLVPEKAAVSGGRRPLPSPAPPPPQLLEACRA PEEPGGGGTDGVARTPPVGMSGQVAGSPMLPGATCPRLAAGSRCPERGLLTTTVTLQRPVELNGEDELVFTVVEE LSLGALAGAGRPTSLASFDSDCSLRALASGSRPVSIISSINDEFDAYTSQAPEGGPLEGAAWAGSSHGSSISSWL SEVSVCTADSRDPTPQPRFSPDSLAGLDPGGPPALDGSLGDGSSGFLGPDRPDSPGPTWGPCPGEVAAVAPSRPG REPQAGPSRWASAAQTIHSSLPRKPRTASATTRVGCARLGQSPPGRGGLFEDPWLLRVGECDTQAASAGRAPSPT LGSPRLPEAOVMLACAORVVDGCEVAARAARRPEAVARIPPLRRGATTLGVTTPAVSWGDAPTEVVACSGSLKAS PTSKKGLAPKAGFLPRPSGAAPPAPPTRKSSLEQRSSPASAPPHAVNPARVGAAAVLRGEEEPRPSSRADHSVPR ATSSLKARASKVEAAHRLAGHASLERYEGLAHSSSKGREAPGRPPRAVPKLGVPPSSPTHGPAPACRSGAAKAVG APKPPVGGGKGRGLVAGGSRALGPSVKLSTASVTGRSPGGPVAGPRAAPRAGPSVGAKAGRGTVMGTKQALRAAH SRVHELSASGAPGRGGSSWGSADSDSGHDSGVNVGEERPPTGPALPSPYSKVTAPRRPQRYSSGHGSDNSSVLSG ELPPAMGRTALFHHSGGSSGYESLRRDSEATGSASSAPDSMSESGAASPGARTRSLKSPKKRATGLQRRRLIPAP LPDTTALGRKPSLPGOWVDLPPPLAGSLKEPFEIKVYEIDDVERLORPRPTPREAPTOGLACVSTRLRLAERROO RLREVQAKHKHLCEELAETQGRLMLEPGRWLEQFEVDPELEPESAEYLAALERATAALEQCVNLCKAHVMMVTCF DISVAASAAIPGPQEVDV

CACTACTGCCCTGCACCTGCAGCCCCCGTGGCGGGAGGCATGGAGGAGGTCATCGTGGCCCAGGTGGACCATG AGAAGCTGCCATCCAACGTGGCACGTGAGCACAACTCTATGTGGGCGTCCCTGAGCAGCCCCGACGCCGAGGCTG TGGAGCCCGACTTCTCCAGCATCGAGCGACTATTCTCCTTCCCTGCAGCCCAAGCCCAAGGAGCCCACCATGGTGG CCCCCGGGCCAGGAAGGAGCCCAAGGAGATCACTTTCCTCGATGCCAAGAAGAGCCTGAACCTCAACATCTTCC TGAAGCAATTTAAGTGCTCCAACGAGGAGGTCGCTGCTATGATCCGGGCTGGAGATACCACCAAGTTTGATGTGG AGGTTCTCAAACAACTCCTTAAGCTCCTTCCCGAGAAGCACGAGATTGAAAACCTGCGGGCATTCACAGAGGAGC GAGCCAAGCTGGCCAGCGCCGACCACTTCTACCTCCTGCTGGCCATTCCCTGCTACCAGCTGCGAATCGAGT GCGAAAGCCTGCTCACCAGCCGCCAGCTGCCCATCTTCTGCCAGCTGATCCTGAGAATTGGGAACTTCCTCAACT AGAACCGCGTGACGCTGCACCACGTGCTGGAGGAAGCGGAAAAGAGCCACCCCGACCTCCTGCAGCTGCCCC GGGACCTGGAACAGCCCTCGCAAGCAGCAGCGGATCAACCTGGAGATCATCCGCTCAGAGGCCAGCTCCAACCTGA AGAAGCTTCTGGAGACCGAGCGGAAGGTGTCTGCCTCCGTGGCCGAGGTCCAGGAGCAGTACACCGAGCGCCTCC AGGCCAGCATCTCGGCCTTCCGGGCACTGGATGAGCTGTTTTGAGGCCATCGAGCAGAAGCAACGGGAGCTGGCCG ACTACCTGTGTGAGGACGCCCAGCAGCTGTCCCTGGAGGACACGTTCAGCACCATGAAGGCTTTCCGGGACCTTT CGGAGGAGGAGGCGCGCGCCTCGGGGAGAGGACGGGAAGCCTGTCAGGAAGGGGCCCGGGAAGCAGGAGGAGGA TGTGTGTCATCGATGCCCTGCTGGCTGACATCAGGAAGGGCTTCCAGCTGCGGAAGACAGCCCGGGGCCGCGGGG ACACCGACGGGGGCAGCAGGCACCTCCATGGATCCCCCAAGAGCCACAGAGCCTGTGGCCACCAGTAACCCTG GGGGCTGGGACCTTGTAGACGCCGTGACCCCCGGCCCTCAGCCCACCCTGGAGCAGTTGGAGGAGGGTGGTCCAC GGCCCCTGGAGAGGCGTTCTTCCTGGTATGTGGATGCCAGCGATGTCCTAACCACTGAGGATCCCCAGTGCCCCC AGCCCTTGGAGGGGGCCTGGCCGGTGACTCTGGGAGATGCTCAGGCCCTGAAGCCCCTCAAGTTCTCCAGCAACC AGCCCCTGCAGCCGGAAGTTCAAGGCAAGATGCCAAGGATCCCACGTCCTTGCTGGGCGTCCTCCAGGCCGAGG CCGACAGCACAAGTGAGGGGCTGGAGGACGCTGTCCACAGCCGTGGTGCCAGACCCCCTGCAGCACGCCCAGGTG GGGATGAGGACGAGGACGAGGACACGCCCCAGAGTCCGCACTGGACACATCCCTGGACAAGTCCTTCTCCG AGGATGCGGTGACCGACTCCTCGGGGTCGGGCACACTCCCCAGGGCCCGGGGCCGGGCCTCAAAGGGGACCGGGA AGCGAAGGAAGAGCGTCCCTCCAGGAGCCAGGAAGGCCTCAGGCCCAAGGCCAAGTGAGAGAGCCCAG GCCACAGGACATGCTGCCATTCTGCCAAGAGAGGCTCTTCTGGGGGCCAGGCTGGGACTGGGCCCCGGAAACCAA AACTCCGTGCCTTACCCAGCCGGGGCCCTCCTGGAGCCTTCTTGGGGTGTTGTGGCTGGGAACCCGACAGGCACC AGTGCCCTGCCAGGCCTGGTGCCCTCCTGGACCGCCTGCACGTGCCAGCCTCCCACCTGCTTCCTAAAGGCAACC CTGGCCCACACCCGCATGCGCCCGGTGCAGCCTGCCAAGGGCCAGTCGGGGGGGTGCTGCCGTCCTGCCAGTGTCCA CCACAGCTCTGCCTTCAGCCCAGCAAGGTTTAATCAAAATGCAATGCTTTGCAAGTCTTTACTGCTTGGA GGCAGGCCCTGGGGACAATACAGGTCCACCTGAGGGGCTGCAGGGTGACACCCAGCAGCCGCTGCCCCTCACTG CCCACCCAGGGGGGGGCCTACCGAGCCTGCCCCTGCCAGGTGTGTGCCCTGAGGCTGGCGGCTGGATGCGT **GGCCAATAAAAAGCAGACCTAG** 

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# FIGURE 4106

 $\label{thm:composition} \begin{matrix} MPKRSCPFADVAPLQLKVRVSQRELSRGVCAERYSQEVFEKTKRLLFLGAQAYLDHVWDEGCAVVHLPESPKPGP\\ TGAPRAARGQMLIGPDGRLIRSLGQASEADPSGVASIACSSCVRAVDGKAVCGQCERALCGQCVRTCWGCGSVAC\\ TLCGLVDCSDMYEKVLCTSCAMFET\\ \end{matrix}$ 

MPKRSCPFADVAPLQLKVRVSQRELSRGVCAERYSQEVFDPSGVASIACSSCVRAVDGKAVCGQCERALCGQCVRTCWGCGSVACTLCGLVDCSDMYEKVLCTSCAMFET

AAAGGGCTGCCTGGAGGAGGCAGCCTGTCAGCTGGTGCATCAGAGGCTGTGGCCAGGCCAGCTGGGCTCGGGGA GCGCCAGCCTGAGAGGGGCGCGTGAGCGTCGCGGGAGCCTCGGGCACCATGAGCGACGTGGCTATTGTGAAGGAG GGTTGGCTGCACAAACGAGGGGAGTACATCAAGACCTGGCGGCCACGCTACTTCCTCCTCAAGAATGATGGCACC TTCATTGGCTACAAGGAGCGGCCGCAGGATGTGGACCAACGTGAGGCTCCCCTCAACAACTTCTCTGTGGCGCAG GAACGCACCTTCCATGTGGAGACTCCTGAGGAGCGGGAGGAGTGGACAACCGCCATCCAGACTGTGGCTGACGGC CTCAAGAAGCAGGAGGAGGAGATGGACTTCCGGTCGGGCTCACCCAGTGACAACTCAGGGGCTGAAGAGATG GAGGTGTCCCTGGCCAAGCCCCAAGCACCGCGTGACCATGAACGAGTTTGAGTACCTGAAGCTGCTGGGCAAGGGC ACTITCGGCAAGGTGATCCTGGTGAAGGAGAAGGCCACAGGCCGCTACTACGCCATGAAGATCCTCAAGAAGGAA GTCATCGTGGCCAAGGACGAGGTGGCCCACACACTCACCGAGAACCGCGTCCTGCAGAACTCCAGGCACCCCTTC CTCACAGCCCTGAAGTACTCTTTCCAGACCCACGACCGCCTCTGCTTTGTCATGGAGTACGCCAACGGGGGCGAG CTGTTCTCCACCTGTCCCGGGAACGTGTGTTCTCCGAGGACCGGGCCCGCTTCTATGGCGCTGAGATTGTGTCA GCCCTGGACTACCTGCACTCGGAGAAGAACGTGGTGTACCGGGACCTCAAGCTGGAGAACCTCATGCTGGACAAG GACGGCACATTAAGATCACAGACTTCGGGCTGTGCAAGGAGGGGGATCAAGGACGGTGCCACCATGAAGACCTTT TGCGGCACACCTGAGTACCTGGCCCCCGAGGTGCTGGAGGACAATGACTACGGCCGTGCAGTGGACTGGTGGGGG CTGGGCGTGGTCATGTACGAGATGATGTGCGGTCGCCTTCTACAACCAGGACCATGAGAAGCTTTTTGAG CTCATCCTCATGGAGGAGATCCGCTTCCCGCGCACGCTTGGTCCCGAGGCCAAGTCCTTGCTTTCAGGGCTGCTC AAGAAGGACCCCAAGCAGAGGCTTGGCGGGGGCTCCGAGGACGCCAAGGAGATCATGCAGCATCGCTTCTTTGCC GGTATCGTGTGGCACCCGTGTACGAGAAGAAGCTCAGCCCACCCTTCAAGCCCCAGGTCACGTCGGAGACTGAC ACCAGGTATTTTGATGAGGAGTTCACGGCCCAGATGATCACCATCACACCACCTGACCAAGATGACAGCATGGAG TGTGTGGACAGCGAGCGCCCACTTCCCCCAGTTCTCCTACTCGGCCAGCACGCCCTGAGGCGGCGGT GGACTGCGCTGGACGATAGCTTGGAGGGGATGGAGAGGCGGCCTCGTGCCATGATCTGTATTTAATGGTTTTTATT TCTCGGGTGCATTTGAGAGAAGCCACGCTGTCCTCTCGAGCCCAGATGGAAAGACGTTTTTGTGCTGTGGGCAGC GTGTGGCCTCAGCCCTCAGAACAATCCGATTCACGTAGGGAAATGTTAAGGACTTCTACAGCTATGCGCAATGTG CAGCTATCTGTCATCTCTGGGGCCCTGGGCCTCAGTTCAACCTGGTGGCACCAGATGCAACCTCACTATGGTA TGCTGGCCAGCACCCTCTCCTGGGGGTGGCAGGCACACAGCAGCCCCCCAGCACTAAGGCCGTGTCTCTGAGGAC GTCATCGGAGGCTGGGCCCCTGGGATGGGACCAGGGATGGGGCAGGGTTTACCCAGTGGGACAGAGGA  ${\tt GCAAGGTTTAAATTTGTTATTGTGTATTATGTTGTTCAAATGCATTTTGGGGGGTTTTTAATCTTTGTGACAGGAA}$ AGCCCTCCCCTTCCGCTTCTGTGTCACAGTTCTTGGTGACTGTCCCACCGGAGCCTCCCCCTCAGATGATCTCT GTGGCCATCCTGGGCCCTCCACGCCTCCTGGCCAGACGCTGCCGCTGCCGCTGCACCACGGCGTTTTTTTACA ACATTCAACTTTAGTATTTTTACTATTATAATATATAGGAACCTTCCCTCCAAATTCT

MSDVAIVKEGWLHKRGEYIKTWRPRYFLLKNDGTFIGYKERPQDVDQREAPLNNFSVAQCQLMKTERPRPNTFII RCLQWTTVIERTFHVETPEEREEWTTAIQTVADGLKKQEEEEMDFRSGSPSDNSGAEEMEVSLAKPKHRVTMNEF EYLKLLGKGTFGKVILVKEKATGRYYAMKILKKEVIVAKDEVAHTLTENRVLQNSRHPFLTALKYSFQTHDRLCF VMEYANGGELFFHLSRERVFSEDRARFYGAEIVSALDYLHSEKNVVYRDLKLENLMLDKDGHIKITDFGLCKEGI KDGATMKTFCGTPEYLAPEVLEDNDYGRAVDWWGLGVVMYEMMCGRLPFYNQDHEKLFELILMEEIRFPRTLGPE AKSLLSGLLKKDPKQRLGGGSEDAKEIMQHRFFAGIVWQHVYEKKLSPPFKPQVTSETDTRYFDEEFTAQMITIT PPDQDDSMECVDSERRPHFPQFSYSASSTA

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### 4458/6881 FIGURE 4112

AGCCTGCAGCGGCAGTCGCTCCTGGACATGTCTCTGGTGAAGTTGCAGCTTTGCCACATGCTTGTGGAGCCCAAC CTGTGCCGCTCAGTCCTCATTGCCAACACGGTCCGGCAGATCCAAGAGGAGATGACGCAGGATGGGACGTGGCGC ACAGTGGCACCCCAGGCTGCAGAGCGGCCGCCTCGACCGCTTGGTCTCCACGGAGATCCTGTGCCGTGCAGCG GGAAGCTTTCACAAGTCACTTGATCAGATATTTGAAACGCTGGAGACTAAAAACCCCAGCTGCATGGAAGAGCTG TTCTCAGACGTGGACAGCCCCTACTACGACCTGGACACGTACTGACAGGCATGATGGGGGGGTGCCAGGCCGGGC CCCTGCGAAGGGCTCGAGGCTTGGCTCCGGCCACCCCAGGCCCTAGCTCCAGCTGCAAGTCCGACCTGGGCGAG CTGGACCACGTGGTGGAGATCCTGGTGGAGACCTGAGCAGGAGCCCTGAGTGCTCACAGCCGCCTCTGACGCATT GACACGTGAGCACTGGCTCCCACGGAGGGTGCGCCTGCCGCCAGCGCCCAGCCTTGCTGCCCTGTCTGATT CTGAGAAATCCCAGAACAGCCCATTACCAGTGGGGCTGCAGCCCTAGGCCCGTCCCACTCACCTCCCCCTGTGG AGCGCCAGGCAGAGGCTGTTCTGGAAGGCTTCTTGTCTTCTGACGTCCCCACAGCCCTGGGCCCCTCGTGTCTCT TTGTGTCCCCCACTGTAGAGGACGGTGAGCCGCAGCTGCATCAACCTCCTTTTACCTTTAGATAGGTGAATTTTT ACAATTCAGTTTTACATGTTTTGGGCAGTATTTTGTCTTAAGATATATTTTTTAAACTTTTTATACCTTATCTCT TTAGATTTTTTCAGCTATTTTCTTAAAAGTATATTTTTTCTATAAACATCCTTTGCTGCTACATTAGAACTTTTA TTCTTCATTATGTCCTGCGCTGCAGTGAGACCTGGGTGAAAATCAGGAGCCGCACACAGCCACATCTTCCTAGAC CTAAGAGTAAATTATGGAGGATTTTATTTATGTCTATTTATATGTAAATGTCATTGAAGACAAAGGTCAAATATT TGTCTGTTTGTAGATCACAGGCACCAGTTGGTCTTCAGGGACCTCATAGCCCCTCGGTGGTGCCTTCTCAAGGCA GTGTTCCTGGAGGCTCCCATCAGGGTCAGCCCATGCACCTGCCCTGGGTGAGGAAGTAGCATTGCTGCTGGATGA GAAACGCCTGCGCTGCTCTGTTAGACTGGTGCTGAAACAAAAGGTTAAGGCTAGGTTGAAGTCTAGAATGAAAGA GGGTGCCTGCAGCCTTCCACTCCTGCCCCGCCTCACCCCACATGCTCCCTGTTTCTCATGCTTCTCTAACTTCC TCACCCCTTAACCAAAAAGGTGTGTTTTCTTTTGTGCATATAGCCATTCTTAAATATCAGTGATGTAAACCTCAC 

MFARGLKRKCVGHEEDVEGALAGLKTVSSYSLQRQSLLDMSLVKLQLCHMLVEPNLCRSVLIANTVRQIQEEMTQ DGTWRTVAPQAAERAPLDRLVSTEILCRAAWGQEGAHPAPGLGDGHTQGPVSDLCPVTSAQAPRHLQSSAWEMDG PRENRGSFHKSLDQIFETLETKNPSCMEELFSDVDSPYYDLDTVLTGMMGGARPGPCEGLEGLAPATPGPSSSCK SDLGELDHVVEILVET

GGACTCCCCCTCGCCCTCTGACACAGAAACCACCAGAAGAAAAGGGAACTTCAGGAACTTCCACCAAGGGCCCAT  ${\tt CCGTCTTCCCCTGGCGCCCTGCTCCAGGAGCACCTCCGAGAGCACAGCCGCCCTGGGCTGCCTGGTCAAGGACT}$ ACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCCCTGACCAGCGGCGTGCACACCTTCCCGGCTGTCC TACAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACGAAGACCTACA CCTGCAACGTAGATCACAAGCCCAGCAACACCAAGGTGGACAAGAGAGTTGAGTCCAAATATGGTCCCCCATGCC CATCATGCCCAGCACCTGAGTTCCTGGGGGGACCATCAGTCTTCCTGTTCCCCCCAAAACCCAAGGACACTCTCA TGATCTCCCGGACCCCTGAGGTCACGTGCGTGGTGGTGGACGTGAGCCAGGAAGACCCCGAGGTCCAGTTCAACT GGTACGTGGATGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTTCAACAGCACGTACCGTG TGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAG GCCTCCCGTCCTCCATCGAGAAAACCATCTCCAAAGCCAAAGGGCAGCCCCGAGAGCCACAGGTGTACACCCTGC CCCCATCCCAGGAGGAGATGACCAAGAACCAGGTCAGCCTGACCTGGTCAAAGGCTTCTACCCCAGCGACA TCGCCGTGGAGTGGGAGACAATGGGCAGCCGGAGAACAACTACAAGACCACGCCTCCCGTGCTGGACTCCGACG GCTCCTTCTCCTCTACAGCAGGCTAACCGTGGACAAGAGCAGGTGGCAGGAGGGGAATGTCTTCTCATGCTCCG TGATGCATGAGGCTCTGCACAACCACTACACAGAAGAGCCTCTCCCTGTCTCTGGGTAAATGAGTGCCAGGGC CGGCAAGCCCCCGCTCCCCGGGCTCTCGGGGTCGCGCGAGGATGCTTGGCACGTACCCCGTCTACATACTTCCCA GGCACCCAGCATGGAAATAAAGCACCCACCACTGCCCTGGG

# FIGURE 4116

MTLLLQHPWRYFVYYIIHQTNVKCPSCNTAHPRVCSCNSAEEKFFQRQMDLNWGPVPGAATAVGRRTVEAFGDPV PHLRCLWWVLQWLLLELDPPAPREGAGVDWGNQS

# FIGURE 4118

CTTCCACCAAGGGCCCATCGGTCTTCCCCCTGGCGCCCTGCTCCAGGAGCACCTCTGGGGGCACAGCGGCCCTGG ACACCTTCCCGGCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCT TGGGCACCCAGACCTACACCTGCAACGTGAATCACAAGCCCAGCAACACCAAGGTGGACAAGAGAGTTGAGCTCA AAACCCCACTTGGTGACACAACTCACACATGCCCACGGTGCCCAGAGCCCAAATCTTGTGACACACCTCCCCCGT GCCCACGGTGCCCAGAGCCCAAATCTTGTGACACACCTCCCCCATGCCCACGGTGCCCAGCACCTGAACTCCTGG GAGGACCGTCAGTCTTCCCCCCCAAAACCCAAGGATACCCTTATGATTTCCCGGACCCCTGAGGTCACGT GCGTGGTGGTGGACGTGAGCCACGAAGACCCCGAGGTCCAGTTCAAGTGGTACGTGGACGCGTGGAGGTGCATA ATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTTCCGTGTGGTCAGCGTCCTCACCGTCCTGCACC AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCA TCTCCAAAACCAAAGGACAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGAGGAGATGACCAAGA ACCAGGTCAGCCTGACCTGGTCAAAGGCTTCTACCCCAGCGACATCGCCGTGGAGTGGGAGAGCAGCGGGC AGCCGGAGAACAACTACAACACCACGCCTCCCATGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCA CCGTGGACAAGAGCAGGTGGCAGCAGGGGAACATCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCGCT GGGGTCGCGCGAGGATGCTTGGCACGTACCCCGTGTACATACTTCCCGGGCACCCAGCATGGAAATAAAGCACCC AGCGCTGCCCTGGG

GACAGCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGA CCTGCCTGGTCAAAGGCTTCTACCCCAGCGACATCGCCGTGGAGTGGGAGAGCAGCGGGCAGCCGGAGAACAACT ACAACACCACGCCTCCCATGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCA GGTGGCAGCAGGGGAACATCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCGCTTCACGCAGAAGAGCC CGACCATCACCATCTTCATCACACTCTTCCTGTTAAGCGTGTGCTACAGTGCCACCGTCACCTTCTTCAAGGTGA AGTGGATCTTCTCCTCGGTGGTGGACCTGAAGCAGACCATCATCCCCGACTATAGGAACATGATTGGGCAGGGG CCTAGGGCCACCCTCTGCGGGGTGTCCAGGGCCACCCAGATCCCACACACGAGCCGTGGGCCATGCTCAGCCACC ACCCAGGCCACAACTGCCCCGGACCTCACCGCCCTCAACCCCATGGCTCTCTGTCTTTGCAGTCGCCCTCTGAGC GCTGGGGACCAGGTGTCCCTCAGCAGGATGTCCCTGCCCTCCAGACCGCCAGATGCTCACACAAAAGGAGGCAG TGACCAGCATCCGAGGCCCCCACCCAGGCAGGAGCTGGCCCTGGAGCCAACCCCGTCCACGCCAGCCTCCTGAAC . ACAGGCGTGGTTTCCAGATGCCCGCAGCCAGCCAGCCTCCATTCCGGGCACTCCCGTGAACTCCTGACATGAGGA ATGAGGTTGTTCTGATTTCAAGCAAAGAACGCTGCTCTCTGGCTCCTGGGAACAGTCTCGGTGCCAGCACCACCC CTGGGGAGAGAGGGGCCAG

# FIGURE 4122

#### 4471/6881 FIGURE 4125A

CCCAGGATGGCGGCCCAGGTGACTCTGGAGGACGCGCTGTCCAACGTGGACCTCCTGGAGGAGCTGCCCTGCCC GACCAGCAGCCCTGCATCGAGCCCCCGCCATCCTCGCTGCTCTACCAGCCAAATTTCAACACTAACTTTGAAGAC AGAAATGCATTTGTTACTGGCATCGCAAGATACATTGAACAAGCCACCGTCCACTCTAGCATGAACGAGATGCTG GAGGAGGCCAAGAATATGCTGTCATGCTGTACACCTGGAGGAGCTGCTCCCGGGCCATCCCACAGGTGAAATGT AACGAGCAGCCTAACAGAGTGGAAATCTACGAGAAAACCGTGGAGGTTCTGGAGCCTGAGGTCACAAAACTGATG AATTTCATGTACTTCCAGAGAAATGCCATTGAGCGTTTCTGCGGGGAAGTGAGGCGCCTGTGCCATGCCGAGAGG AGGAAGGACTTCGTGTCAGAAGCCTACCTGATCACACTGGGCAAATTCATCAACATGTTCGCTGTGCTGGACGAG CTGAAGAACATGAAGTGCAGTGTGAAGAACGACCACTCAGCGTACAAGAGGGCCGCTCAGTTTTTACGTAAAATG GCAGATCCACAGTCCATCCAGGAATCGCAGAATCTGTCCATGTTCCTGGCCAATCATAACAAGATCACACAGTCT TACGAGAACAGGATGTATTTGACGCCCAGTGAGAAACACATGCTTCTCAAAGTCATGGGATTTGGTCTGTACCTG ATGGATGGGAGTGTCAGTAACATCTATAAGTTGGATGCCAAGAAAAGAATAAACTTATCCAAAATCGACAAGTAC TTCAAGCAACTCCAGGTGGTTCCGCTATTTGGGGACATGCAAATAGAACTGGCAAGATATATCAAGACCAGCGCC CACTACGAGGAAAATAAATCTCGATGGACGTGCACATCCTCCGGCAGCAGCCCTCAGTACAACATCTGCGAGCAG ATGATCCAGATCCGCGAGGACCACATGCGCTTCATTTCGGAGCTGGCGCGCTACAGCAACAGCGAGGTGGTCACG GGCTCGGGCCGCCAGGAGGCCCAGAAGACGCGCGGACTACCGCAAGCTCTTCGACCTGGCGCTGCAGGGCCTG CAGCTGTTGTCGCAGTGGAGCGCGCACGTGATGGAAGTGTATTCCTGGAAGCTTGTGCACCCCACCGACAAGTAC TCCAACAAGGACTGCCCCGACAGCGCTGAAGAGTACGAGCGTGCCACGCGCTACAACTACACCAGCGAGGAGAAG TTTGCCCTAGTGGAGGTGATCGCCATGATCAAAGGCCTGCAGGTGCTGATGGGCAGGATGGAGAGCGTGTTCAAC CACGCCATCCGGCACACCGTCTATGCCGCACTGCAGGACTTCTCCCAGGTGACCCTTAGGGAGCCGCTGCGGCAG GCCATCAAGAAGAAGAAGAACGTCATCCAGAGTGTCCTGCAGGCCATCAGGAAGACCGTGTGTGACTGGGAGACG GGGCATGAGCCCTTCAATGACCCAGCCTTGCGGGGCGAGAAGGACCCCAAGAGCGGCTTCGACATAAAAGTACCA CGCCGCGCGTGGGACCCTCCAGCACTCAGCTTTACATGGTGAGAACCATGCTAGAGTCCCTCATTGCAGACAAA AGTGGTTCCAAGAAAACCTTGAGAAGTAGCCTTGAGGGGCCCACCATATTGGACATAGAAAAATTTCATCGAGAG TCATTCTTCTACACTCACTTGATAAATTTCAGTGAAACGCTGCAGCAGTGCTGTGACCTTTCGCAGCTGTGGTTC CGAGAGTTCTTCCTGGAGCTGACCATGGGCAGGAGGATCCAGTTCCCCATTGAGATGTCGATGCCCTGGATCCTG ACGGACCACATCCTGGAGACCAAGGAGGCATCGATGATGGAGTACGTGCTCTACTCCCTGGACCTGTACAATGAC AGCGCCCACTACGCGCTCACCAGGTTCAACAAGCAGTTCCTGTACGACGAAATTGAGGCCGAGGTGAATCTATGT TTTGACCAATTTGTTTACAAGCTAGCAGACCAGATATTTGCCTATTATAAGGTTATGGCAGGAAGTTTGCTTCTT GATAAACGGTTACGATCAGAATGCAAGAATCAGGGAGCCACGATCCACCTCCCGCCGTCTAACCGCTACGAGACG CTGCTGAAGCAGAGGCATGTGCAGCTCCTCGGCAGATCAATAGACCTCAATCGTCTGATCACCCAGCGCGTCTCA GCAGCCATGTATAAGTCCCTAGAACTGGCGATTGGACGATTTGAAAGTGAAGATTTGACCTCCATAGTTGAGCTG GATGGCCTGTTGGAAATCAACCGCATGACCCACAAGCTGCTGAGCCGGTACCTGACGCTGGACGGCTTCGACGCC ATGTTCCGGGAGGCCAACCACAACGTGTCAGCGCCCTACGGGAGGATCACCCTGCACGTCTTCTGGGAGCTCAAC TATGACTTCCTGCCCAACTACTGCTACAACGGCTCTACCAACCGGTTTGTTCGGACAGTGTTACCATTTTCTCAG GAATTTCAAAGAGATAAGCAGCCTAATGCACAGCCTCAGTATCTGCATGGATCCAAGGCTTTGAACTTGGCCTAC TCCAGCATTTACGGCAGCTACCGGAACTTCGTGGGACCTCCACACTTTCAAGTCATCTGCCGGCTTCTCGGCTAC CAGGGTATCGCCGTGGTCATGGAGGAGCTGCTGAAGGTCGTCAAGAGCCTGCTGCAAGGCACAATCCTGCAGTAC GTGAAGACGCTGATGGAGGTGATGCCCAAGATCTGCCGCCTGCCCCGGCACGAGTACGGCTCTCCTGGTATCCTG GAGTTCTTCCACCACCAGCTGAAGGACATCGTGGAGTACGCAGAGXCTGAAGACGGTGTGCTTCCAGAACCTGCG GGAGGTGGGGAACGCCATCCTCTTCTGCCTGCTCATCGAGCAGAGCCTGTCTTTAGAAGAAGTGTGTGACCTGCT GCACGCGGCTCCTTTCCAGAACATCTTGCCGCGAGTCCATGTGAAAGAGGGGGGAGAGACTTGATGCCAAAATGAA AAGACTAGAATCAAAGTACGCCCCGCTGCATCTTGTCCCACTGATTGAAAGACTGGGGACCCCTCAGCAAATTGC CATCGCAAGAGAGGGGGACCTGCTGACAAAGGAGCGCCTCTGCTGCGGCCTGTCCATGTTTGAGGTCATCCTGAC GTGTGTGGAGTTTCACAGACTGTGGAGTGCCATGCAGTTTGTCTACTGCATTCCCGTGGGGACACACGAGTTCAC TTTTGCTGTGCTGGATTTCTGCTACCATCTACTTAAAGTCCAGAAACATGATGGCAAAGATGAGATTATTAAAAA

# FIGURE 4125B

MQIELARYIKTSAHYEENKSRWTCTSSGSSPQYNICEQMIQIREDHMRFISELARYSNSEVVTGSGRQEAQKTDA
EYRKLFDLALQGLQLLSQWSAHVMEVYSWKLVHPTDKYSNKDCPDSAEEYERATRYNYTSEEKFALVEVIAMIKG
LQVLMGRMESVFNHAIRHTVYAALQDFSQVTLREPLRQAIKKKKNVIQSVLQAIRKTVCDWETGHEPFNDPALRG
EKDPKSGFDIKVPRRAVGPSSTQLYMVRTMLESLIADKSGSKKTLRSSLEGPTILDIEKFHRESFFYTHLINFSE
TLQQCCDLSQLWFREFFLELTMGRRIQFPIEMSMPWILTDHILETKEASMMEYVLYSLDLYNDSAHYALTRFNKQ
FLYDEIEAEVNLCFDQFVYKLADQIFAYYKVMAGSLLLDKRLRSECKNQGATIHLPPSNRYETLLKQRHVQLLGR
SIDLNRLITQRVSAAMYKSLELAIGRFESEDLTSIVELDGLLEINRMTHKLLSRYLTLDGFDAMFREANHNVSAP
YGRITLHVFWELNYDFLPNYCYNGSTNRFVRTVLPFSQEFQRDKQPNAQPQYLHGSKALNLAYSSIYGSYRNFVG
PPHFQVICRLLGYQGIAVVMEELLKVVKSLLQGTILQYVKTLMEVMPKICRLPRHEYGSPGILEFFHHQLKDIVE
YAELKTVCFQNLREVGNAILFCLLIEQSLSLEEVCDLLHAAPFQNILPRVHVKEGERLDAKMKRLESKYAPLHLV
PLIERLGTPQQIAIAREGDLLTKERLCCGLSMFEVILTRIRSFLDDPIWRGPLPSNGVMHVDECVEFHRLWSAMQ
FVYCIPVGTHEFTVEQCFGDGLHWAGCMIIVLLGQQRRFAVLDFCYHLLKVQKHDGKDEIIKNVPLKKMVERIRK

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#### 4474/6881 FIGURE 4127

GATCTGTTTGAGGAGATGGTGCCTGTGTCAGTGTGGCAGTCTTTGGCTGCCTGTGATCAGAGGAAAGCCGATTTG TTAACAGATCAATTGCTCAGATGAGAAGCCACCACTTTGGCAAATGGAGTGCTAGCTTCCCTTAATCTTCCAG  ${\tt CAGCAATTGAAGATGTGTCTGGAGACACTGTACCTCAGTCTATATTGACTAAATCAAGATCTGTGATTGAACAGG}$ GAGGCATCCAGACTGTTGATCAGTTGACTAAAGAACTGCCTGAATTACTGCAATGAAATAGAGAAATCCTAGATG AGTCATTAAGGTTTTTGGATGAAGAAGAAGCAACCGATAATGATTTATGAGCAAAATTTAAGGAACGCTGGCAAA GGACATCATCCAATGAACTGTATAAGCCTTTAAAAGCAGAGGGAACCAGCTTCAGAACAGTTTTAGATAAAGCTG TGCAAGCAGATGGACACGTGAAAGAATGTTACCCGTCTCATCGTGACCCCATCGTGCTTTTGTGTAAGCCAGAGC  $\tt CTGAGCTGAATGCCATCCCTTCTGCTAATCCAGCAAAGACC\underline{ATG}CAGGGCAGTGAGGTTGTAAATGTCTTAA$  ${\tt AATCCTTATTGTCAAATCTTGATGAAGTAAAGAAGGAAAGGAAAGGGGTCTGGAGAATGACTTGAAATCTGTGAATT}$ TTGACATGACAAGCAAGTTTTTGACAGCCCTGGCTCAAGATGGCATGATAAATGAAGAAGCTCTTTCTGTTACTG AACTAGATCGAGTCTATGGAGGTCTTACAACTAAAGTCCCAAGAATCTCTAAAGAAACAGGAGGGACTTCTTAAAA ATATTCAGGTCTCACATCAGGAATTTTCGAAAATGAAGCAATCTAATAATGAAGCTAACTTAAGAGAAGAAGTTT ATGAGTTGACTGAAATCCTGGTCAGGTTCCAGAACAAATGCAGCGATATAGTTTTGGCATGGAAGACAGAAAGAG  $\tt ATGAACTCTTAAAGGCC\underline{TGA}GACCTGGGAGGAAGCTGGAGAAAAGATGCCCTCTGAATCTTTGTGTTTGGCTGCC$ CAGGCTCGCCTTGACACC

MQGSEVVNVLKSLLSNLDEVKKEREGLENDLKSVNFDMTSKFLTALAQDGMINEEALSVTELDRVYGGLTTKVQE SLKKQEGLLKNIQVSHQEFSKMKQSNNEANLREEVLKNLATACDNFVELVANSKEGTKFYNELTEILVRFQNKCS DIVLAWKTERDELLKA

CCCCCAGTGTGAACGATCCCGGGAACATGTCCTTTGTGAAGGACGGTGGACAAGCTGTTGAAAGGCTACGACA TTCGCCTAAGACCCGACTTCGGGGGTCCCCCGGTCTGCGTGGGGATGAACATCGACATCGCCAGCATCGACATGG TTTCCGAAGTCAACATGGATTATACCTTAACCATGTATTTTCAACAATATTGGAGAGATAAAAGGCTCGCCTATT  $\verb|CTGGGATCCCTCTCAACCTCACGCTTGACAATCGAGTGGCTGACCAGCTATGGGTGCCCGACACATATTTCTTAA||$ ATGACAAAAAGTCATTTGTGCATGGAGTGACAGTGAAAAACCGCATGATCCGTCTTCACCCTGATGGGACAGTGC TGTATGGGCTCAGAATCACCACGACAGCAGCATGCATGATGGACCTCAGGAGATACCCCCTGGACGAGCAGAACT GCACTCTGGAAATTGAAAGCTATGGCTACACCACGGATGACATTGAGTTTTACTGGCGAGGCGGGGACAAGGCTG TTACCGGAGTGGAAAGGATTGAGCTCCCGCAGTTCTCCATCGTGGAGCACCGTCTGGTCTCGAGGAATGTTGTCT TCGCCACAGGTGCCTATCCTCGACTGTCACTGAGCTTTCGGTTGAAGAGGAACATTGGATACTTCATTCTTCAGA CTTATATGCCCTCTATACTGATAACGATTCTGTCGTGGGTGTCCTTCTGGATCAATTATGATGCATCTGCTGCTA TCCCCTATGTCAAAGCCATTGACATGTACCTTATGGGCTGCTTCGTCTTTGTGTTCCTGGCCCTTCTGGAGTATG CCTTTGTCAACTACATTTTCTTTGGAAGAGGCCCTCAAAGGCAGAAGAAGCTTGCAGAAAAGACAGCCAAGGCAA AGAATGACCGTTCAAAGAGCGAAAGCAACCGGGTGGATGCTCATGGAAATATTCTGTTGACATCGCTGGAAGTTC ACAATGAAATGAATGAGGTCTCAGGCGGCATTGGCGATACCAGGAATTCAGCAATATCCTTTGACAACTCAGGAA .TCCAGTACAGGAAACAGAGCATGCCTCGAGAAGGGCATGGGCGATTCCTGGGGGACAGAAGCCTCCCGCACAAGA AGACCCATCTACGGAGGAGGTCTTCACAGCTCAAAATTAAAATACCTGATCTAACCGATGTGAATGCCATAGACA GATGGTCCAGGATCGTGTTCCATTCACTTTTCTCTTTTCAACTTAGTTTACTGGCTGTACTATGTTAACTGAG TGACTGTACTTGATTTTTCAAAGACTTCATTTAACACTGAGTGAAATATTACTCTGCCTGTCAAGTTTTTATACC CATATATAT

# FIGURE 4130

 ${\tt MPKRKAEGDTKRDKAKVKDEPQRRSVRLSAKPAPPKPEPKPKKAPAKKGEKVPKGKKGKADAGEEGNNPAENGVAKTDQAQKAESPGDAK}$ 

GGCGAGAACGACCCCGGACCGACCAAAGCCCGCGTGCCGCTGCATCCCACGTCCAGCACCTACGTCCTGTCGCC
ACCGCCACCATGCCCAAGAGAAAGGCTGAAGGGGATGCTAAGGGAGATAAAGCCAAGGTGAAGGACCAACAA
AGAAGATCCGCGAGGTTGTCTGCTAAACCTGCTCCTCCAAAGCCAGAGCCCAAGCCTAAAAAGGCCCCTGCAAAG
AAGGGAGAGAGGTACCCAAAGGGAAAAAGGGAAAAAGCTGATGCCCAGGAGGAGGAGGATTCCTTGACTTTGACACA
CATGGCCACCTTGGCACAAAAGCCTTGTGCTATGGAAAAAACAAATTTGTTTTTATGTCCTCTTCTCCCTTTCCAC
GTTTCAGCATAGACTTAACTCCCTTAAGCCCAGACATCTGTTGAGACCTGACCCCTAGTCATTGGTTACCAGTGT
GTCAGGCAATCTGGACTTTCCAGTGATGCCACTGAGATGGCACCTGTCAAAAGAGCAGTGGTTCCATTTCTAGAT
TGTGGATCTTCAGATAAATTCTGCCATTTTCGTTTCACTTCCTGAAAGTCAGGGTTGGCTTGTAAAAGTTGTTA
AACAACATGCTAAATGTGAAATGTCAACCCTCACTCTCAACTTTCCCTGTTCAGAGCATCAGATGAAAGACTTCAT
TGGGTTTTATAGTGGCTTTCTGATTTTTGGTAGTCCATTGAAAGAAGGGAGTTTGAAAGTTGTTATACTGTTAA
CGATTGTCTGCCCATGTCCTGCCTGAAATACCA

#### 4481/6881 FIGURE 4134A

GCGGCCGCACTCAGCGCCACGCGTCGAAAGCGCAGGCCCCGAGGACCCGCCGCACTGACAGTATGAGCCGCACAG AAGGTGCCATCCCCCGCCAGACAAGGCCCAGCACAATGACTCAGAGCAGACTCAGTCGCCCCAGCAGCCTGGCT CCAGGAACCGGGGGCGGGGCCAAGGGCGGGGCACTGCCATGCCCGGGGAGGAGGTGCTGGAGTCCAGCCAAGAGG CCCTGCATGTGACGGAGCGCAAATACCTGAAGCGAGACTGGTGCAAAACCCAGCCGCTTAAGCAGACCATCCACG AGGAAGGCTGCAACAGTCGCACCATCATCAACCGCTTCTGTTACGGCCAGTGCAACTCTTTCTACATCCCCAGGC ACATCCGGAAGGAGGAAGGTTCCTTTCAGTCCTGCTCCTTCTGCAAGCCCAAGAAATTCACTACCATGATGGTCA CACTCAACTGCCCTGAACTACAGCCACCTACCAAGAAGAAGAGAGTCACACGTGTGAAGCAGTGTCGTTGCATAT CCATCGATTTGGATTAAGCCAAATCCAGGTGCACCCAGCATGTCCTAGGAATGCAGCCCCAGGAAGTCCCAGACC TAAAACAACCAGATTCTTACTTGGCTTAAACCTAGAGGCCAGAAGAACCCCCAGCTGCCTCCTGGCAGGAGCCTG CTTGTGCGTAGTTCGTGTGCATGAGTGTGGATGGGTGCCTGTGGGTGTTTTTAGACACCAGAGAAAACACAGTCT CTGCTAGAGAGCACTCCCTATTTTGTAAACATATCTGCTTTAATGGGGATGTACCAGAAACCCACCTCACCCGG CTCACATCTAAAGGGGCGGGGCCGTGGTCTGGTTCTGACTTTGTGTTTTTTGTGCCCTCCTGGGGACCAGAATCTC CTTTCGGAATGAATGTTCATGGAAGAGGCTCCTCTGAGGGCAAGAGACCTGTTTTAGTGCTGCATTCGACATGGA TTTTGTGAAGACCCTCCAGACTCTGGGAGAGGCTGGTGTGGGCAAGGACAAGCAGGATAGTGGAGTGAGAAAGGG AGGGTGGAGGGTGAGGCCAAATCAGGTCCAGCAAAAGTCAGTAGGGACATTGCAGAAGCTTGAAAAGGCCAATACC AGAACACAGGCTGATGCTTCTGAGAAAGTCTTTTCCTAGTATTTAACAGAACCCAAGTGAACAGAGGAGAAATGA GATTGCCAGAAAGTGATTAACTTTGGCCGTTGCAATCTGCTCAAACCTAACACCAAACTGAAAACATAAATACTG ACCACTCCTATGTTCGGACCCAAGCAAGTTAGCTAAACCAAACCAACTCCTCTGCTTTGTCCCTCAGGTGGAAAA GAGAGGTAGTTTAGAACTCTCTGCATAGGGGTGGGAATTAATCAAAAACCTCAGAGGCTGAAATTCCTAATACCT ATTGATAAAGATCCTGCCTCTGCTGAGTGTACCTGACAGTAGTCTAAGATGAGAGAGTTTAGGGACTACTCTGTT TTAGCAAGAGATATTTTGGGGGTCTTTTTGTTTTAACTATTGTCAGGAGATTGGGCTAAAGAGAAGACGACGAGA GTAAGGAAATAAAGGGAATTGCCTCTGGCTAGAGAGTAGTTAGGTGTTAATACCTGGTAGAGATGTAAGGGATAT GACCTCCCTTTCTTTATGTGCTCACTGAGGATCTGAGGGGACCCTGTTAGGAGAGCATAGCATCATGATGTATTA GCTGTTCATCTGCTACTGGTTGGATGGACATAACTATTGTAACTATTCAGTATTTACTGGTAGGCACTGTCCTCT TGTACTTTGGATTTGGTTAACCTGTTTTCTTCAAGCCTGAGGTTTTATATACAAACTCCCTGAATACTCTTTTTTG GCCGATCAAGGCTCTGGCATTCAGAGAACCCTTGCAACTCGAGAAGCTGTTTTTATTTCGTTTTTGATCC AGTGCTCTCCCATCTAACAACTAAACAGGAGCCATTTCAAGGCGGGAGATATTTTAAACACCCAAAATGTTGGGT GTTTTGTATACACTGTATGACCCCACCCCAAATCTTTGTATTGTCCACATTCTCCAACAATAAAGCACAGAGTGG ATTTAATTAAGCACACAAATGCTAAGGCAGAATTTTGAGGGTGGGAGAGAAAAAGGGGAAAGAAGCTGAAAATG TAAAACCACCAGGGAGGAAAAATGACATTCAGAACCAGCAAACACTGAATTTCTCTTGTTGTTTTAACTCTGC CACAAGAATGCAATTTCGTTAACGGAGATGACTTAAGTTGGCAGCAGTAATCTTCTTTTAGGAGCTTGTACCACA GTCTTGCACATAAGTGCAGATTTGGCTCAAGTAAAGAGAATTTCCTCAACACTAACTTCACTGGGATAATCAGCA GCGTAACTACCCTAAAAGCATATCACTAGCCAAAGAGGGAAATATCTGTTCTTACTGTGCCTATATTAAGAC TAGTACAAATGTGGTGTGTCTTCCAACTTTCATTGAAAATGCCATATCTATACCATATTTTATTCGAGTCACTGA TGATGTAATGATATTTTTTCATTATTATAGTAGAATATTTTTATGGCAAGATATTTGTGGTCTTGATCATACC CACATCCTGGAAGTCTGTAAGTTGTTTTTTTTTTACTGTAGGTCTTCAAAGTTAAGAGTGTAAGTGAAAAATCTGG TTCAAATCCTTTGGTCACTGTGATTTCAAGCATGTTTTCTTTTTTCTCCTTTATATGACTTTCTCTGAGTTGGGCA AAGAAGAAGCTGACACCCGTATGTTGTTAGAGTCTTTTATCTGGTCAGGGGAAACAAAATCTTGACCCAGCTGA ACATGTCTTCCTGAGTCAGTGCCTGAATCTTTATTTTTTAAATTGAATGTTCCTTAAAGGTTAACATTTCTAAAG

# FIGURE 4134B

CAATATTAAGAAAGACTTTAAATGTTATTTTGGAAGACTTACGATGCATGTATACAAACGAATAGCAGATAATGA
TGACTAGTTCACACATAAAGTCCTTTTAAGGAGAAAATCTAAAATGAAAAGTGGATAAACAGAACATTTATAAGT
GATCAGTTAATGCCTAAGAGTGAAAGTAGTTCTATTGACATTCCTCAAGATATTTAATATCAACTGCATTATGTA
TTATGTCTGCTTAAATCATTTAAAAACGGCAAAGAATTATATAGACTATGAGGTACCTTGCTGTAGGAGGATG
AAAGGGGAGTTGATAGTCTCATAAAACTAATTTGGCTTCAAGTTTCATGAATCTGTAACTAGAATTTAATTTTCA
CCCCAATAATGTTCTATATAGCCTTTGCTAAAAGACAACTAATAAATTAAACCTATTCTTTC

CTTTCTGTGCCGATAACGCTCACGCAAGCATGGTTAACGTCCCTAAAACCCGCCGGACTTTCTGTAAGAAGTGTG
GCAAGCACCAACCCCATAAAGTGACACAGTACAAGAAGGGCAAGGATTCTCTGTATGCCCAGGGAAAGCGGCGTT
ATGACAGGAAGCAGAGTGGCTATGGTGGGCAAACTAAGCCAATTTTCTGGAAAAAAGGCTAAAACTACAAAGATTG
TGCTAAGGCTTGAGTGCATTGAGCCCAACTGCAGATCTAAGAGAATGCTGGCTATTAAAAGATGCAAGCATTTTG
AACTGGGAGGAGATAAGAAGAGAAAGGGCCAAGTGATTCAGTTCTAAGTGTCATCTTTTATTATGAAGACAATAA
AATCTTGAGTTTATGTTC

AATTCTTCGTTGTCTAGACTGGGCTTTTTTTCCCCCCTAAAAAATAGCATATTGGAAAATTGGGAGAAGTCTCTT TGGTTTGGAAAAAAAAAAAAAGGAATCTTCAGCCTAGATCACTTTCTTATCCGGACTGGGATATTAAATATACGAC GGAGTAGGGGTTCCCGCTTCCATGTACGGAGACCCTCACGCGCCGGGCCGATCCCCCGGTTCACCACCTGAAC CACGGGCCGCCCCCACGCCACACACACACTACGGCGCGCACGCCCCCCCAATGTCATGCCGGCCAGTATG GGATCCGCTGTCAACGACGCCTTGAAGCGGGACAAGGACGCGATCTATGGGCACCCGTTGTTTCCTCTGTTAGCT TCCGACTCCTTCAACGAGGACATCGCGGTCTTCGCCAAGCAGGTTCGCGCCGAAAAGCCACTTTTTTCCTCAAAT CCAGAGCTGGACAATTTGATGATACAAGCAATACAAGTACTAAGGTTTCATCTTTTGGAGTTAGAAAAGGTCCAC GAACTGTGCGATAACTTCTGCCACCGATACATTAGCTGTTTGAAGGGGAAAATGCCCATCGACCTCGTCATTGAT GAAAGAGACGGCAGCTCCAAGTCAGATCATGAAGAACTTTCAGGCTCCTCCACAAATCTCGCTGACCATAACCCT TCTTCTTGGCGAGACCACGATGATGCAACCTCAACCCACTCAGCAGGCACCCCAGGGCCCTCCAGTGGGGGCCAT GCTTCCCAGAGCGGAGACAACAGCAGTGAGCAAGGGGATGGTTTAGACAACAGTGTAGCTTCACCTGGTACAGGT GACGATGATGATCCGGATAAGGACAAAAAACGCCAGAAGAAAAGAGGCATTTTCCCCAAAGTAGCAACAAATATC ATGAGAGCATGGCTCTTCCAGCATCTCACAGTTTAT<u>TAA</u>TGCCAGAAGAAGAATAGTACAGCCCATGATTGACCA GTCAAATCGAGCAGTGAGCCAAGGAGCAGCATATAGTCCAGAGGGTCAGCCCATGGGGAGCTTTGTGTTTGGATGG GCACTACATGTAACCTTCATCATGTAAAGCAATCGCAAAGCAAGGGGGAAGTTTGCAGAGCATGCCAGGGGACTA CGTTTCTCAGGGTGGTCCTATGGGAATGAGTATGGCACAGCCAAGTTACACTCCTCCCCAGATGACCCCACACCC CGGAGGACCCCTACCCACCTGGAATGACTATGTCAGCACAGAGCCCCACAATGTTAAATTCTGTAGATCCCAA TGTTGGCGGACAGGTTATGGACATTCATGCCCAATAGTATAAGGGAACTCAAGGGAAAAGGAAACACACGCAAAA ACTATTTTAAGACTTTCTGAACTTTGACCAGATGTTGACACTTAATATGAAATTCCAGACAGCTGTGATTATTTT TTACTTTTGTCATTTTCATCAAGCAACAGAGGACCAATGCAACAAGAACACAAATGTGAAATCATGGGCTGACT GAGACAATTCTGTCCATGTAAAGATCCTCTGGAAAAAGACTCCGAGAGTTATAACTACTGTAGTATAAATATAGG ATATATCCTTGTTTTCCACACTATGTGTGTTGTTCCCAAAAGAATGACTGTTTTTGGTTCATCAGTGAATTCACCA TCCAGGAGAGACTGTGGTATATATTTTAAACCTGTTGGGCCAATGAGAAAAGAACCACACTGGAGATCATGATGA ACTTTTGGCTGAACCTCATCACTCGAACTCCAGCTTCAGAATGTGTTTTCATGCCCGGCCTTTGTTCCTCCATAA ATGTGTCCTTTAGTTTCAAACAGATCTTTATAGTTCGTGCTTCATAAGCCAATTCTTATTATTATTTTTTGGGGGA CTCTTCTCAAAGAGCTTGCCAATGAAGATTTAAAGACAGAGCAGGAGCTTCTTCCAGGAGTTCTGAGCCTTGGT CTAGGACTTTATCAGAAACTCAAAGCTTGGGGGATAAAAAGGAGCAAGAGAATACTGTAACAAACTTCGTACAGA TAGTATCAGATCTGCTGTGGAATTGGTATTGTATGTCCATGAATTCTTCTTTTCTCAGCACGTGTTCCTCACTAG AAGAAAATGCTGTTACCTTTAAGCTTTGTCAAATTTACATTAAAATACTTGTATGAGGACTGTGACGTTATGTT

MAQRYDELPHYGGMDGVGVPASMYGDPHAPRPIPPVHHLNHGPPLHATQHYGAHAPHPNVMPASMGSAVNDALKR DKDAIYGHPLFPLLALVFEKCELATCTPREPGVAGGDVCSSDSFNEDIAVFAKQVRAEKPLFSSNPELDNLMIQA IQVLRFHLLELEKVHELCDNFCHRYISCLKGKMPIDLVIDERDGSSKSDHEELSGSSTNLADHNPSSWRDHDDAT STHSAGTPGPSSGGHASQSGDNSSEQGDGLDNSVASPGIGDDDDPDKDKKRQKKRGIFPKVATNIMRAWLFQHLT VY

#### 4486/6881 FIGURE 4138A

GGACGCACAGGCATTCCCCGCGCCCCTCCAGCCCTCGCCGCCCTCGCCACCGCTCCCGGCCGCCGCCCCCGCTC CACACAGGATCCCTGCTGGGCACCAACAGCTCCACCATGGGGGCTGGCCTGGGGACTAGGCGTCCTGTTCCTGATG CATGTGTGTGGCACCAACCGCATTCCAGAGTCTGGCGGAGACAACAGCGTGTTTGACATCTTTGAACTCACCGGG GCCGCCCGCAAGGGGTCTGGGCCCCGACTGGTGAAGGGCCCCGACCCTTCCAGCCCAGCTTTCCGCATCGAGGAT GCCAACCTGATCCCCCCTGTGCCTGATGACAAGTTCCAAGACCTGGTGGATGCTGTGCGGGCAGAAAAGGGTTTC CTCCTTCTGGCATCCCTGAGGCAGATGAAGAAGACCCGGGGCACGCTGCTGGCCCTGGAGCGGAAAGACCACTCT GGCCAGGTCTTCAGCGTGGTGTCCAATGGCAAGGCGGGCACCCTGGACCTCAGCCTGACCGTCCAAGGAAAGCAG CACGTGGTGTCTGTGGAAGAGCTCTCCTGGCAACCGGCCAGTGGAAGAGCATCACCCTGTTTGTGCAGGAAGAC AGGGCCCAGCTGTACATCGACTGTGAAAAGATGGAGAATGCTGAGTTGGACGTCCCCATCCAAAGCGTCTTCACC AGAGACCTGGCCAGCATCGCCAGACTCCGCATCGCAAAGGGGGGCGTCAATGACAATTTCCAGGGGGTGCTGCAG AATGTGAGGTTTGTCTTTGGAACCACCAGAAGACATCCTCAGGAACAAAGGCTGCTCCAGCTCTACCAGTGTC AAGGACTTGCAAGCCATCTGCGGCATCTCCTGTGATGAGCTGTCCAGCATGGTCCTGGAACTCAGGGGCCTGCGC ACCATTGTGACCACGCTGCAGGACAGCATCCGCAAAGTGACTGAAGAGAACAAAGAGTTGGCCAATGAGCTGAGG CGGCCTCCCCTATGCTATCACAACGGAGTTCAGTACAGAAATAACGAGGAATGGACTGTTGATAGCTGCACTGAG TGTCACTGTCAGAACTCAGTTACCATCTGCAAAAAGGTGTCCTGCCCCATCATGCCCTGCTCCAATGCCACAGTT CCTGATGGAGAATGCTGTCCTCGCTGTTGGCCCAGCGACTCTGCGGACGATGGCTGGTCTCCATGGTCCGAGTGG ACCTCCTGTTCTACGAGCTGTGGCAATGGAATTCAGCAGCGCGGCCGCTCCTGCGATAGCCTCAACAACCGATGT GAGGGCTCCTCGGTCCAGACACGGACCTGCCACATTCAGGAGTGTGACAAGAGATTTAAACAGGATGGTGGCTGG AGCCACTGGTCCCCGTGGTCATCTTGTTCTGTGACATGTGGTGATGGTGTGATCACAAGGATCCGGCTCTGCAAC TGCCCCATCAATGGAGGCTGGGGTCCTTGGTCACCATGGGACATCTGTTCTGTCACCTGTGGAGGAGGGGTACAG AAACGTAGTCGTCTCTGCAACAACCCCACACCCCAGTTTGGAGGCAAGGACTGCGTTGGTGATGTAACAGAAAAC CAGATCTGCAACAAGCAGGACTGTCCAATTGATGGATGCCTGTCCAATCCCTGCTTTGCCGGCGTGAAGTGTACT AGCTACCCTGATGGCAGCTGGAAATGTGGTGCTTGTCCCCCTGGTTACAGTGGAAATGGCATCCAGTGCACAGAT GTTGATGAGTGCAAAGAAGTGCCTGATGCCTGCTTCAACCACAATGGAGAGCACCGGTGTGAGAACACGGACCCC GGCTACAACTGCCTGCCCTGCCCCCACGCTTCACCGGCTCACAGCCCTTCGGCCAGGGTGTCGAACATGCCACG GCCAACAAACAGGTGTGCAAGCCCCGTAACCCCTGCACGGATGGGACCCACGACTGCAACAAGAACGCCAAGTGC AACTACCTGGGCCACTATAGCGACCCCATGTACCGCTGCGAGTGCAAGCCTGGCTACGCTGGCAATGGCATCATC TGCGGGGAGACACAGACCTGGATGGCTGGCCCAATGAGAACCTGGTGTGCGTGGCCAATGCGACTTACCACTGC AAAAAGGATAATTGCCCCAACCTTCCCAACTCAGGGCAGGAAGACTATGACAAGGATGGAATTGGTGATGCCTGT GATGATGACGATGACAATGATAAAATTCCAGATGACAGGGACAACTGTCCATTCCATTACAACCCAGCTCAGTAT GACTATGACAGAGATGATGTGGGAGACCGCTGTGACAACTGTCCCTACAACCACAACCCAGATCAGGCAGACACA GACAACAATGGGGAAGGAGACGCCTGTGCTGCAGACATTGATGGAGACGGTATCCTCAATGAACGGGACAACTGC GAACACAATCCGGATCAGCTGGACTCTGACTCAGACCGCATTGGAGATACCTGTGACAACAATCAGGATATTGAT GAAGATGGCCACCAGAACAATCTGGACAACTGTCCCTATGTGCCCAATGCCAACCAGGCTGACCATGACAAAGAT GGCAAGGGAGATGCCTGTGACCACGATGATGACAACGATGCCATTCCTGATGACAAGGACAACTGCAGACTCGTG CCCAATCCCGACCAGAAGGACTCTGACGGCGATGGTCGAGGTGATGCCTGCAAAGATGATTTTGACCATGACAGT GTGCCAGACATCGATGACATCTGTCCTGAGAATGTTGACATCAGTGAGACCGATTTCCGCCGATTCCAGATGATT CCTCTGGACCCCAAAGGGACATCCCAAAATGACCCTAACTGGGTTGTACGCCATCAGGGTAAAGAACTCGTCCAG ACTGTCAACTGTGATCCTGGACTCGCTGTAGGTTATGATGAGTTTAATGCTGTGGACTTCAGTGGCACCTTCTTC ATCAACACCGAAAGGGACGATGACTATGCTGGATTTGTCTTTGGCTACCAGTCCAGCAGCCGCTTTTATGTTGTG ATGTGGAAGCAAGTCACCCAGTCCTACTGGGACACCCAACCCCACGAGGGCTCAGGGATACTCGGGCCTTTCTGTG AAAGTTGTAAACTCCACCACAGGGCCTGGCGAGCACCTGCGGAACGCCCTGTGGCACACAGGAAACACCCCTGGC CAGGTGCGCACCCTGTGGCATGACCCTCGTCACATAGGCTGGAAAGATTTCACCGCCTACAGATGGCGTCTCAGC CACAGGCCAAAGACGGGTTTCATTAGAGTGGTGATGTATGAAGGGAAGAAAATCATGGCTGACTCAGGACCCATC 

# FIGURE 4138B

CCTTCTGGAACTATGGGCTTGAGAAAACCCCCAGGATCACTTCTCCTTGGCTTCCTTTTTTCTGTGCTTGCATC AGTGTGGACTCCTAGAACGTGCGACCTGCCTCAAGAAAATGCAGTTTTCAAAAACAGACTCAGCATTCAGCCTCC AATGAATAAGACATCTTCCAAGCATATAAACAATTGCTTTGGTTTCCTTTTGAAAAAGCATCTACTTGCTTCAGT TGGGAAGGTGCCCATTCCACTCTGCCTTTGTCACAGAGCAGGGTGCTATTGTGAGGCCATCTCTGAGCAGTGGAC CTTCAGGAACACGGGGAGCAGAGGCCAAAGCACTAAGGGGAGGGCGCATACCCGAGACGATTGTATGAAGAAAAT ATGGAGGAACTGTTACATGTTCGGTACTAAGTCATTTTCAGGGGGATTGAAAGACTATTGCTGGATTTCATGATGC TGACTGGCGTTAGCTGATTAACCCATGTAAATAGGCACTTAAATAGAAGCAGGAAAGGGGAGACAAAGACTGGCTT CTGGACTTCCTCCCTGATCCCCACCCTTACTCATCACCTGCAGTGGCCAGAATTAGGGAATCAGAATCAAACCAG TGTAAGGCAGTGCTGGCCATTGCCTGGTCACATTGAAATTGGTGGCTTCATTCTAGATGTAGCTTGTGCAGA TGTAGCAGGAAAATAGGAAAACCTACCATCTCAGTGAGCACCAGCTGCCTCCCAAAGGAGGGGCAGCCGTGCTTA TTTACTTATTCTGGAAGATCTGGCTGAAGGATTATTCATGGAACAGGAAGAAGCGTAAAGACTATCCATGTCATC GCTTCATACGGAAAGTGTTTGAGAGCAAGTAGTTGACATTTATCAGCAAATCTCTTGCAAGAACAGCACAAGGAA AGAGAAAAAATGACAAAAGGTGAAACTTACATACAAATATTACCTCATTTGTTGTGTGACTGAGTAAAGAATTT TTGGATCAAGCGGAAAGAGTTTAAGTGTCTAACAAACTTAAAGCTACTGTAGTACCTAAAAAAGTCAGTGTTGTAC ATAGCATAAAAACTCTGCAGAGAAGTA'TTCCCAATAAGGAAATAGCATTGAAATGTTAAATACAATTTCTGAAAG ATATCTCAGATTGTGTAGATATGCTATTTAAATAATTTATCAGGAAATACTGCCTGTAGAGTTAGTATTTCTATT TTTTATCCATTTTACATTCTAAAGCAGTGTAAGTTGTATATTACTGTTTCTTATGTACAAGGAACAACAATAAAT CATATGGAAATTTATATTT

#### 4488/6881 FIGURE 4139A

GTTTGTTAGGGAGTCGTGCGTGCCTTGGTCGCTTCTGTAGCTCCGAGGGCAGGTTGCGGAAGAAAGCCCAGGC GGTCTGTGGCCCAGAGGAAAGGCCTGCAGCAGGACGAGGACCTGAGCCAGGAATGCAGGA<u>ATG</u>GCGGCGGTGAAGA CTTTAAGGCAAGGGCGGATCATGTCCACGCTTCAGGGAGCACTGGCACAAGAATCTGCCTGTAACAATACTCTTC AGCAGCAGAAACGGGCATTTGAATATGAAATTCGATTTTACACTGGAAATGACCCTCTGGATGTTTGGGATAGGT ATATCAGCTGGACAGAGCAGAACTATCCTCAAGGTGGGAAGGAGTAATATGTCAACGTTATTAGAAAGAGCTG TAGAAGCACTACAAGGAGAAAAACGATATTATAGTGATCCTCGATTTCTCAATCTCTGGCTTAAATTAGGGCGTT TATGCAATGAGCCTTTGGATATGTACAGTTACTTGCACAACCAAGGGATTGGTGTTTCACTTGCTCAGTTCTATA TCTCATGGGCAGAAGAATATGAAGCTAGAGAAAACTTTAGGAAAGCAGATGCGATATTTCAGGAAGGGATTCAAC AGAAGGCTGAACCACTAGAAAGACTACAGTCCCAGCACCGACAATTCCAAGCTCGAGTGTCTCGGCAAACTCTGT TGGCACTTGAGAAAGAAGAAGAGGAGGAAGTTTTTGAGTCTTCTGTACCACAACGAAGCACACTAGCTGAACTAA AGAGCAAAGGGAAAAAGACAGCAAGAGCTCCAATCATCCGTGTAGGAGGTGCTCTCAAGGCTCCAAGCCAGAACA GAGGACTCCAAAATCCATTTCCTCAACAGATGCAAAATAATAGTAGAATTACTGTTTTTGATGAAAATGCTGATG AGGCTTCTACAGCAGAGTTGTCTAAGCCTACAGTCCAGCCATGGATAGCACCCCCCATGCCCAGGGCCAAAGAGA ATGAGCTGCAAGCAGGCCCTTGGAACACAGGCAGGTCCTTGGAACACAGGCCTCGTGGCAATACAGCTTCACTGA TAGCTGTACCCGCTGTGCTTCCCAGTTTCACTCCATATGTGGAAGAGACTGCACAACAGCCAGTTATGACACCAT GTAAAATTGAACCTAGTATAAACCACATCCTAAGCACCAGAAAGCCTGGAAAGGAAGAAGGAGATTCTCTACAAA GAGTAGGGGAATTCTCCTTTGAAGAAATTCGGGCTGAAGTTTTCCGGAAGAAATTAAAAGAGCAAAGGGAAGCCG AGCTATTGACCAGTGCAGAGAGAGAGGCAGAAATGCAGAAACAGATTGAAGAGTGGAGAAGAAGCTAAAAGAAA TCCAAACTACTCAGCAAGAAAGAACAGGTGATCAGCAAGAAGAGACGATGCCTACAAAGGAGACAACTAAACTGC AAATTGCTTCCGAGTCTCAGAAAATACCAGGAATGACTCTATCCAGTTCTGTTTGTCAAGTAAACTGTTGTGCCA GAGAAACTTCACTTGCGGAGAACATTTGGCAGGAACAACCTCATTCTAAAGGTCCCAGTGTACCTTTCTCCATTT TTGATGAGTTTCTTCTTCAGAAAAGAAGAATAAAAGTCCTCCTGCAGATCCCCCACGAGTTTTAGCTCAACGAA GACCCCTTGCAGTTCTCAAAACCTCAGAAAGCATCACCTCAAATGAAGATGTCTCCCAGATGTTTGTGATGAAT TTACAGGAATTGAACCCTTGAGCGAGGATGCCATTATCACAGGCTTCAGAAATGTAACAATTTGTCCTAACCCAG AAGACACTTGTGACTTTGCCAGAGCAGCTCGTTTTGTATCCACTCCTTTTCATGAGATAATGTCCTTGAAGGATC TCCCTTCTGATCCTGAGAGACTGTTACCGGAAGAAGATCTAGATGTAAAGACCTCTGAGGACCAGCAGACAGCTT GTGGCACTATCTACAGTCAGACTCTCAGCATCAAGAAGCTGAGCCCAATTATTGAAGACAGTCGTGAAGCCACAC ACTCCTCTGGCTTCTCTGGTTCTTCTGCCTCGGTTGCAAGCACCTCCTCCATCAAATGTCTTCAAATTCCTGAGA AACTAGAACTTACTAATGAGACTTCAGAAAACCCTACTCAGTCACCATGGTGTTCACAGTATCGCAGACAGCTAC AGAAGGAAATTGAATTAGGTAATGAGGATTACTGCATTAAACGAGAATACCTAATATGTGAAGATTACAAGTTAT TCTGGGTGGCGCCAAGAAACTCTGCAGAATTAACAGTAATAAAGGTATCTTCTCAACCTGTCCCATGGGACTTTT ATATCAACCTCAAGTTAAAGGAACGTTTAAATGAAGATTTTGATCATTTTTGCAGCTGTTATCAATATCAAGATG GCTGTATTGTTTGGCACCAATATATAAACTGCTTCACCCTTCAGGATCTTCTCCAACACAGTGAATATATTACCC ATGAAATAACAGTGTTGATTATTTATAACCTTTTGACAATAGTGGAGATGCTACACAAAGCAGAAATAGTCCATG GTGACTTGAGTCCAAGGTGTCTGATTCTCAGAAACAGAATCCACGATCCCTATGATTGTAACAAGAACAATCAAG CTTTGAAGATAGTGGACTTTTCCTACAGTGTTGACCTTAGGGTGCAGCTGGATGTTTTTACCCTCAGCGGCTTTC GGACTGTACAGATCCTGGAAGGACAAAAGATCCTGGCTAACTGTTCTTCTCCCTACCAGGTAGACCTGTTTGGTA TAGCAGATTTAGCACATTTACTATTGTTCAAGGAACACCTACAGGTCTTCTGGGATGGGTCCTTCTGGAAACTTA GCCAAAATATTTCTGAGCTAAAAGATGGTGAATTGTGGAATAAATTCTTTGTGCGGATTCTGAATGCCAATGATG TGAACAAAGCCTTATGGAAGGTAGGGAAGTTAACTAGTCCTGGGGCTTTGCTCTTTCAG<u>TGA</u>GCTAGGCAATCAA GTCTCACAGATTGCTGCCTCAGAGCAATGGTTGTATTGTGGAACACTGAAACTGTATGTGCTGTAATTTAATTTA GGACACATTTAGATGCACTACCATTGCTGTTCTACTTTTTGGTACAGGTATATTTTTGACGTCACTGATATTTTTT ATACAGTGATATACTTACTCATGGCCTTGTCTAACTTTTGTGAAGAACTATTTTATTCTAAACAGACTCATTACA **AATGGTTACCTTGTTATTTAACCCATTTGTCTCTACTTTTCCCTGTACTTTTCCCATTTGTAATTTGTAAAATGT** 

## 4489/6881 FIGURE 4139B

MAAVKKEGGALSEAMSLEGDEWELSKENVQPLRQGRIMSTLQGALAQESACNNTLQQQKRAFEYEIRFYTGNDPL
DVWDRYISWTEQNYPQGGKESNMSTLLERAVEALQGEKRYYSDPRFLNLWLKLGRLCNEPLDMYSYLHNQGIGVS
LAQFYISWAEEYEARENFRKADAIFQEGIQQKAEPLERLQSQHRQFQARVSRQTLLALEKEEEEEVFESSVPQRS
TLAELKSKGKKTARAPIIRVGGALKAPSQNRGLQNPFPQQMQNNSRITVFDENADEASTAELSKPTVQPWIAPPM
PRAKENELQAGPWNTGRSLEHRPRGNTASLIAVPAVLPSFTPYVEETAQQPVMTPCKIEPSINHILSTRKPGKEE
GDSLQRVQSHQQASEEKKEKMMYCKEKIYAGVGEFSFEEIRAEVFRKKLKEQREAELLTSAEKRAEMQKQIEEME
KKLKEIQTTQQERTGDQQEETMPTKETTKLQIASESQKIPGMTLSSSVCQVNCCARETSLAENIWQEQPHSKGPS
VPFSIFDEFLLSEKKNKSPPADPPRVLAQRRPLAVLKTSESITSNEDVSPDVCDEFTGIEPLSEDAIITGFRNVT
ICPNPEDTCDFARAARFVSTPFHEIMSLKDLPSDPERLLPEEDLDVKTSEDQQTACGTIYSQTLSIKKLSPIIED
SREATHSSGFSGSSASVASTSSIKCLQIPEKLELTNETSENPTQSPWCSQYRRQLLKSLPELSASAELCIEDRPM
PKLEIEKEIELGNEDYCIKREYLICEDYKLFWVAPRNSAELTVIKVSSQPVPWDFYINLKLKERLNEDFDHFCSC
YQYQDGCIVWHQYINCFTLQDLLQHSEYITHEITVLIIYNLLTIVEMLHKAEIVHGDLSPRCLILRNRIHDPYDC
NKNNQALKIVDFSYSVDLRVQLDVFTLSGFRTVQILEGQKILANCSSPYQVDLFGIADLAHLLLFKEHLQVFWDG
SFWKLSQNISELKDGELWNKFFVRILNANDEATVSVLGELAAEMNGVFDTTFQSHLNKALWKVGKLTSPGALLFQ

#### 4491/6881 FIGURE 4141A

 ${\tt GGAACGTTGGCCACC} \underline{\textbf{ATG}} {\tt TCTCTGCTCAACCCTGTCCTGCCCCCCAAGGTGAAGGCCTATCTGAGCCAAGGGG}$ AGCGCTTCATCAAATGGGATGATGAAACTACAGTTGCCTCTCCAGTTATCCTCCGTGTGGATCCTAAGGGCTACT ACTTATACTGGACGTATCAAAGTAAGGAGATGGAGTTTCTGGATATCACCAGCATCCGGGATACTCGCTTTGGGA AGTTTGCCAAGATGCCCAAGAGCCAGAAGCTCCGGGACGTCTTCAACATGGACTTTCCTGATAACAGTTTCCTGC TGAAGACACTCACGGTGGTGTCCGGCCCGGACATGGTGGACCTCACCTTCCACAACTTCGTCTCCTACAAGGAGA ACGTGGGCAAGGCCTGGGCTGAGGACGTACTGGCCCTAGTCAAACATCCGCTGACGGCCAACGCCTCCCGCAGCA CCTTCCTGGACAAGATCCTTGTGAAGCTCAAGATGCAGCTCAACTCTGAAGGGAAGATTCCGGTGAAGAACTTTT ACGCCATCAATCCTGAGGACTTCCCAGAACCTGTCTACAAGAGTTTCCTCATGAGCCTCTGTCCTCGGCCAGAAA TAGATGAGATCTTCACTTCTTACCATGCTAAGGCCAAACCCTACATGACGAAGGAGCACCTGACCAAATTCATCA ACCAGAAACAGCGGGACTCCCGGCTTAACTCCCTGCTGTTCCCGCCAGCACGGCCTGACCAGGTGCAGGGCCTCA TCGACAAGTATGAGCCCAGTGGCATCAATGCACAGAGGGGCCCAGCTGTCACCTGAAGGCATGGTCTGGTTTCTCT GTGGGCCAGAGACAGCGTGCTGGCCCAGGACAAGCTGCTGCTCCACCACGACATGACGCAGCCACTCAATCATT ACTICATCAACTCGTCCCACAACACCTACCTGACAGCCGGCCAGTTCTCAGGCCTCTCCTCGGCTGAGATGTACC GCCAGGTGCTCTCTGGCTGCCGTTGCGTGGAGCTAGACTGCTGGAAGGGGAAACCCCCTGACGAGGAGCCCA TTATCACCCATGGCTTCACCATGACCACAGACATCTTCTTCAAAGAAGCAATTGAGGCTATTGCAGAAAGTGCCT TTAAGACCTCCCCCTATCCCATCATCCTGTCGTTTGAGAACCATGTGGACTCACCCCGCCAGCAGGCTAAGATGG CTGAGTATTGCCGGACGATCTTTGGGGATATGCTGCTCACAGAGCCCCTGGAAAAGTTCCCACTAAAACCAGGTG TCCCCCTGCCCAGCCCTGAGGATCTCAGGGGCAAGATCCTCATCAAGAACAAGAAGAACCAGTTTTCTGGCCCCA AGGAAGGGACTGAGCTGGAGGAGGAGGAGGTGGAAGAGGAGGAGGAGGAGTCAGGAAACCTGGATGAAGAAG AGATTAAGAAGATGCAGTCGGATGAGGGCACAGCGGGCCTGGAAGTGACGGCTTATGAGGAGATGTCCAGCCTAG TCAATTACATCCAGCCCACCAAGTTCGTCTCCTTTGAGTTCTCTGCCCAAAAGAACCGAAGTTATGTCATCTCGT CCTTCACAGAGCTCAAGGCATATGACCTGCTCTCCAAGGCCTCGGTGCAGTTTGTGGACTACAACAAGCGCCAGA TGAGCCGCATTTACCCCAAGGGAACCCGCATGGACTCCTCCAACTACATGCCCCAGATGTTCTGGAATGCTGGAT GCCAGATGGTTGCCCTCAACTTCCAGACGATGGACTTGCCCATGCAGCAGAACATGGCAGTATTTGAGTTCAACG GCATCGACGTGGTGGTGGCCACCACCCTTTCCATTACGGTGATCTCTGGGCAGTTCCTGTCAGAACGCAGCGTGC GCACCTATGTAGAAGTGGAGCTGTTTGGCCTTCCTGGGGACCCCAAGAGGCGCTATCGAACTAAGCTGTCACCCA GTACTAACTCCATCAATCCTGTCTGGAAGGAGGAGCCCTTTGTCTTTGAGAAGATCTTGATGCCTGAGCTGGCCT CCCTCAGAGTGGCTGTGATGGAGGAAGGCAACAAGTTTCTTGGACACCGCATCATCCCCATCAATGCCCTAAATT CTGGGTACCACCACCTGTGCCTGCACAGTGAGAGCAACATGCCCCTCACCATGCCTGCGCTCTTCATCTTCCTGG AGATGAAGGACTACATACCTGGTGCTTGGGCAGATCTCACTGTGGCCCTCGCCAACCCCATTAAGTTCTTCAGTG CCCATGACACGAAGTCTGTGAAGCTCAAGGAGGCCATGGGAGGTCTGCCTGAGAAGCCCTTCCCACTGGCGAGTC CAGTTGCCAGCCAGGTCAATGGGGCGTTGGCCCCAACGAGCAATGGGTCACCAGCAGCCAGGGCCGGGGCCAGGG AAGAGGCTATGAAAGAAGCTGCGGAGCCGCGGACCGCCAGCCTGGAGGAGCTCCGGGAGCTAAAGGGCCTGGTGA AGCGGGGCGCGCGCGCGGGGGCTCGGGCCACCGGGCGTGGGGGGCCTGCAAGCTCGGTCCCG GCAAGGGCTCTCGCAAGAAGAGGGGCCTGCCCCGCGAGGAGAGCCCCGGAGCCGCGCGGGGGGGCCCTGAGG GCGTGGACGGGCGCGCGGGAGCTGAAAGACAGGCTGGAGCTGCAGCTGCGGCAGGGCGAGGAGCAGTACG AGTGCGTTCTGAAGCGCAAGGAGCACCACGTGGCCGAGCAAATCTCCAAAATGATGGAGCTGGCCAGAGAGAAAC AGGCGGCAGAGCTGAAGGCCCTGAAGGAGACGTCGGAGAACGACCAAAAGAGATGAAGAAAAAGCTGGAGACAA TTAACAACTCCCACATCCAGGAAGTAGTGCAGGTGATCAAGCAGATGACGGAGAACTTGGAGAGGCACCAGGAGA AGCTGGAGGAGAAGCAGGCGGCTTGCCTGGAACAGATACGGGAGATGGAAAAGCAGTTCCAGAAGGAGGCGCTGG 

#### 4492/6881 FIGURE 4141B

 ${\tt MSLLNPVLLPPKVKAYLSQGERFIKWDDETTVASPVILRVDPKGYYLYWTYQSKEMEFLDITSIRDTRFGKFAKM}$ PKSQKLRDVFNMDFPDNSFLLKTLTVVSGPDMVDLTFHNFVSYKENVGKAWAEDVLALVKHPLTANASRSTFLDK ILVKLKMQLNSEGKIPVKNFFQMFPADRKRVEAALSACHLPKGKNDAINPEDFPEPVYKSFLMSLCPRPEIDEIF TSYHAKAKPYMTKEHLTKFINQKQRDSRLNSLLFPPARPDQVQGLIDKYEPSGINAQRGQLSPEGMVWFLCGPEN SVLAQDKLLLHHDMTQPLNHYFINSSHNTYLTAGQFSGLSSAEMYRQVLLSGCRCVELDCWKGKPPDEEPIITHG FTMTTDIFFKEAIEAIAESAFKTSPYPIILSFENHVDSPRQQAKMAEYCRTIFGDMLLTEPLEKFPLKPGVPLPS PEDLRGKILIKNKKNQFSGPTSSSKDTGGEAEGSSPPSAPAVWAGEEGTELEEEEVEEEEEEESGNLDEEEIKKM QSDEGTAGLEVTAYEEMSSLVNYIQPTKFVSFEFSAQKNRSYVISSFTELKAYDLLSKASVQFVDYNKRQMSRIY PKGTRMDSSNYMPQMFWNAGCQMVALNFQTMDLPMQQNMAVFEFNGQSGYLLKHEFMRRPDKQFNPFSVDRIDVV VATTLSITVISGQFLSERSVRTYVEVELFGLPGDPKRRYRTKLSPSTNSINPVWKEEPFVFEKILMPELASLRVA VMEEGNKFLGHRIIPINALNSGYHHLCLHSESNMPLTMPALFIFLEMKDYIPGAWADLTVALANPIKFFSAHDTK SVKLKEAMGGLPEKPFPLASPVASQVNGALAPTSNGSPAARAGAREEAMKEAAEPRTASLEELRELKGVVKLQRR HEKELRELERRGARRWEELLQRGAAQLAELGPPGVGGVGACKLGPGKGSRKKRSLPREESAGAAPGEGPEGVDGR VRELKDRLELELLRQGEEQYECVLKRKEQHVAEQISKMMELAREKQAAELKALKETSENDTKEMKKKLETKRLER IQGMTKVTTDKMAQERLKREINNSHIQEVVQVIKQMTENLERHQEKLEEKQAACLEQIREMEKQFQKEALAEYEA RMKGLEAEVKESVRACLRTCFPSEAKDKPERACECPPELCEQDPLIAKADAQESRL

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#### 4494/6881 FIGURE 4143

ATGTTCCCCCGCCGCTGACCCCGCTGGCGGCCCCAAATGGCGCCGAGCCCCTGGGCCGGGCGCTGAGGCGGGCC GTGGCCTCCAGCGGGCTGCTCATGATCGAGCGGGGCATCCTGGCCGAGATGAAGCCCCTGCCCCTGCACCCG CCCGGCCGCGAGGCCACAGCCTGGCGCGGAAAGCCCCCAAGCCTGGGGGCCTGTCCCTCAGGGCTGGGGACGCG GACTTGCAAGTGCGGCAGGACGTCCGGAACAGGACCCTGCGGGCGTGTGCGGACAGCCAGGCATGCCCCGGGAC  ${\tt CCCTGGGACTTGCCGGTGGGGCACCGTGCTGCGCCACATCCTCGTAAGTGACCGTTACCGCTTCCTC}$ TACTGCTACGTCCCCAAGGTGGCCTGCTCTAACTGGAAGCGGGTGATGAAGGTGCTGGCAGGCGTCCTGGACAGC GTGGACGTCCGCCTCAAGATGGACCACCGCAGTGACCTGGTGTTCCTGGCCGACCTGCGGCCTGAGGAGATTCGC TACCGCCTGCAGCACTACTTTAAGTTCCTGTTTGTGCGGGAGCCCTTGGAACGCCTCCTCTCTGCCTACCGCAAC AAGTTTGGCGAGATCCGAGAGTACCAGCAACGCTATGGGGGCTGAGATAGTGAGGCGGTACAGGGCTGGAGCGGGG CCCAGCCCTGCAGGCGACGATGTCACATTCCCCGAGTTCCTGAGATACCTGGTGGATGAGGACCCTGAGCGCATG AATGAGCATTGGATGCCCGTGTACCACCTGTGCCAGCCTTGTGCCGTGCACTATGACTTTGTGGGGCTCCTATGAG GCCTGGTACCGGCCAGCCAGCCCGAAAGCCTGCATTACCACTTGTGCAGTGCCCCCGGGCCCTGCTGCAGGAT GTGCTGCCTAAGTATATCCTGGACTTCTCCCTCTTTGCCTACCCACTGCCTAATGTCACCAAGGAGGCGTGTCAG  ${\tt TTCGGAGAAACTCTGGCTCTGGGGCTTGGGGCTTCTCAGGATCCTGGATGGCAGAGACTGCCCTCAGAAGTTCCT}$ TGTCCAGGGTGGCCACCCACAGTGACTCAGAGGACAGGGCTAGGCAGGAGACCTGCTGCTCCTCATTGGGGGGAT CTCTTGGGGGGCAGACACCAGTTTGCCAATGAAGCAACACATCTGATCTAAAGACTGGCTCCAGACCCCGGGCTG AAGCATGACCAGAGCCAGGGACCCTGTGGCTCTGATCCCCCCATTTATCCACCCCATGTGCCTCAGGACTAGAGTG AGCAATCATACCTTATAAATGACTTTTGTGCCTTTCTGCTCCAGTCTCAAAATTTCCTACACCTGCCAGTTCTTT ACATTTTCCAAGGAAAGGAAAACGGAAGCAGGGTTCTTGCCTGGTAGCTCCAGGACCCAGCTCTGCAGGCACCC TTGATAGAACCCTTGTAAGGGCTTTGTTTTCCTAATAGCTGACTTTTTAATAAAGCAGTTTTATATAAAAAAA ΑΑΑΑΑΑΑΑΑ

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#### 4495/6881 FIGURE 4144

MFPRPLTPLAAPNGAEPLGRALRRAPLGRARAGLGGPPLLLPSMLMFAVIVASSGLLLMIERGILAEMKPLPLHP PGREGTAWRGKAPKPGGLSLRAGDADLQVRQDVRNRTLRAVCGQPGMPRDPWDLPVGQRRTLLRHILVSDRYRFL YCYVPKVACSNWKRVMKVLAGVLDSVDVRLKMDHRSDLVFLADLRPEEIRYRLQHYFKFLFVREPLERLLSAYRN KFGEIREYQQRYGAEIVRRYRAGAGPSPAGDDVTFPEFLRYLVDEDPERMNEHWMPVYHLCQPCAVHYDFVGSYE RLEADANQVLEWVRAPPHVRFPARQAWYRPASPESLHYHLCSAPRALLQDVLPKYILDFSLFAYPLPNVTKEACQ

 ${\tt ATGTGGCTGGACCGCCGGGATGGCTCAGGGTTCTTGGACATTGGCGCTACGACCTTAGGCGCCCTAGCTTTACCC}$ GCTTCGCATCAGCAAAACGGTGACGCTGGTGGCGACGCGAAGGTTGAGCTGTCCCCCGGGCCCCCGAAGCCGGCT GGCCGGGAAGTGGAGCCGGCCCCAGTAGGCGGGGAGCATCCCTCGGCTGCAGCCCCAGGCCCGGGCAAGCATAAG AAGCGGCGGGCGCAACCAGGGAGCGTGTCGTGCCGCCCCCGAAGAAGCGGCGGACCGGGGTGAGCTTCGGAGAT GAGCACTTTGCAGAAACCAGTTATTACTTCGAGGGCGGCCTGCGTAAGGTGCGGCCCTATTACTTTGACTTCCGG ACCTACTGCAAAGGTCGCTGGGTGGGCCACAGCTTGCTGCACGTCTTCAGTACCGAGTTCCGAGCTCAGCCCCTG GCCTACTATGAGGCCGCGGTCCGGGCGGGCCGCCTGCAACTCAACGAGAAGCCGGTGCAGGACCTCAACATCGTG CTCAAGGACAATGATTTCTTGCGGAACACAGTGCACAGGCATGAGCCACCAGTCACAGCAGAGCCCATTCGCCTG CTAGCTGAGAACGAAGATGTGGTGGTTGTAGACAAGCCTTCCTCCATTCCCGTTCACCCCTGTGGCCGCTTCCGA  $\tt CACAACACAGTTATCTTCATCCTAGGCAAGGAGCACCCAACTCAAGGAGCTACACCCCTTGCATCGGCTTGACCGC$  $\tt CTTACCTCAGGGGTGCTTATGTTTGCCAAGACAGCTGCAGTCTCTGAGAGAATTCACGAGCAGGTTCGGGACCGG$  $\tt CAGCTGGAGAAGGAGTACGTGTGCCGGGTGGAAGGGGAGTTCCCCACTGAGGAAGTGACCTGTAAAGAACCCATC$ TTAGTGGTGTCTTACAAAGTAGGGGTGTGCCGTGTAGATCCCCGGGGCAAGCCCTGTGAGACAGTGTTCCAGAGG CTAAGCTACAATGGCCAGTCCAGTGTGGTACGGTGCCGGCCACTCACAGGCCGCACACACCAGATTCGAGTCCAC  $\tt CTTCAGTTCTTGGGCCATCCCATTCTCAACGACCCCATCTACAACTCAGTTGCCTGGGGTCCTTCTCGAGGCCGG$ GGCGGCTACATTCCCAAGACAAACGAGGAGTTGCTACGGGACCTGGTAGCAGAGCACCAGGCCAAACAGAGCCTG GATGTGCTAGATCTCTGTGAGGGTGACCTGTCCCCAGGACTCACAGACTCTACGGCCCCCTCCTCAGAGTTGGGC AAGGACGACCTGGAAGAGTTGGCTGCCGAGAAGATGGAGGAAGTAGCTGAGGCAGCCCCTCAGGAGTTG GAGTGCCGGCTGGTGCGACAGGATCCCTTGCCCCAAGACCTTGTGATGTTCCTACATGCCCTACGCTATAAAGGG CCAGGCTTTGAGTACTTTTCACCAATGCCTGCCTGGGCACAGGATGACTGGCAAAAGGACTGA

MWLDRRGWLRVLGHWRYDLRRPSFTRTWSGDKGPMAETVSTQVGTEGGLRASHQQNGDAGGDAKVELSPGPPKPA GREVEPAPVGGEHPSAAAPGPGKHKKRRGATRERVVPPPKKRRTGVSFGDEHFAETSYYFEGGLRKVRPYYFDFR TYCKGRWVGHSLLHVFSTEFRAQPLAYYEAAVRAGRLQLNEKPVQDLNIVLKDNDFLRNTVHRHEPPVTAEPIRL LAENEDVVVVDKPSSIPVHPCGRFRHNTVIFILGKEHQLKELHPLHRLDRLTSGVLMFAKTAAVSERIHEQVRDR QLEKEYVCRVEGEFPTEEVTCKEPILVVSYKVGVCRVDPRGKPCETVFQRLSYNGQSSVVRCRPLTGRTHQIRVH LQFLGHPILNDPIYNSVAWGPSRGRGGYIPKTNEELLRDLVAEHQAKQSLDVLDLCEGDLSPGLTDSTAPSSELG KDDLEELAAAAQKMEEVAEAAPQELDTIALASEKAVETDVMNQETDPLCAECRLVRQDPLPQDLVMFLHALRYKG PGFEYFSPMPAWAQDDWQKD

GCAAGCGAGTAGAGAAGTGGAGCGTAAGCCAGGGGCGTTGGGGGCCGTGCGGGTGCGGCGCGTGCCACGCCGCG GGGTGAAGTCGGAGCGCGGGCCTGCTGGAGAGAGAGGAGCGCTGCGGACCGAGTAATGGCAATGCAGATGCAGCTT GAAGCAAATGCAGATACTTCAGTGGAAGAAGAAGCTTTGGCCCACAACCCATTTCACGGTTAGAGCAGTGTGGC ATAAATGCCAACGATGTGAAGAAATTGGAAGAAGCTGGATTCCATACTGTGGAGGCTGTTGCCTATGCGCCAAAG AAGGAGCTAATAAATATTAAGGGAATTAGTGAAGCCAAAGCTGATAAAATTCTGGCTGAGGCAGCTAAATTAGTT CCAATGGGTTTCACCACTGCAACTGAATTCCACCAAAGGCGGTCAGAGATCATACAGATTACTACTGGCTCCAAA GAGCTTGACAAACTACTTCAAGGTGGAATTGAGACTGGATCTATCACAGAAATGTTTGGAGAATTCCGAACTGGG AAGACCCAGATCTGTCATACGCTAGCTGTCACCTGCCAGCTTCCCATTGACCGGGGTGGAGGTGAAGGAAAGGCC ATGTACATTGACACTGAGGGTACCTTTAGGCCAGAACGGCTGCTGGCAGTGGCTGAGAGGTATGGTCTCTCTGGC AGTGATGTCCTGGATAATGTAGCATATGCTCGAGCGTTCAACACAGACCACCAGACCCAGCTCCTTTATCAAGCA TCAGCCATGATGGTAGAATCTAGGTATGCACTGCTTATTGTAGACAGTGCCACCGCCCTTTACAGAACAGACTAC TCGGGTCGAGGTGAGCTTTCAGCCAGGCAGATGCACTTGGCCAGGTTTCTGCGGATGCTTCTGCGACTCGCTGAT GAAACCAGAATCTGCAAAATCTACGACTCTCCCTGTCTTCCTGAAGCTGAAGCTATGTTCGCCATTAATGCAGAT GGAGTGGGAGATGCCAAAGACTGAATCATTGGGTTTTTCCTCTGTTAAAAACCTTAAGTGCTGCAGCCTAATGAG AGTGCACTGCTCCCTGGGGTTCTCTACAGGCCTCTTCCTGTTGTGACTGCCAGGATAAAGCTTCCGGGAAAACAG  $\tt CTATTATATCAGCTTTTCTGATGGTATAAACAGGAGACAGGTCAGTAGTCACAAACTGATCTAAAATGTTTATTC$ CTTCTGTAGTGTATTAATCTCTGTGTGTTTTCTTTGGTTTTTGGAGGGGGGTATGAAGTATCTTTGACATGGTGC CTTAGGAATGACTTGGGTTTAACAAGCTGTCTACTGGACAATCTTATGTTTCCAAGAGAACTAAAGCTGGAGAGA 

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#### 4499/6881 FIGURE 4148

GGCACGAGGCAGGCCAGGTGTGCGTCCGTCGGTCTTTCCGTGCCCACGCCGGAGACCAGCCCCGGAGGCCGCC TGGGCCTATCCCTGTGCCAGGCACCATGAAGCAGGAGTCTGCAGCCCCGAACACCCCGGCCCACCTCGCAGTCCCC TACGCCGTCCGCTCAGTTCCCCCGAAACGACGCGACCCTCAAGCGCTGTGGATTTTCGGGTACGCTCCCTGGT  $\tt GTGGAGGCCCGACTTCGCCTACAGCCGACAGCCGTGTGGGCTTCGTGCGCGGCTACAGCCGCCGTTTCTGGCAGGG$ AGACACCTTCCATCGGGGCAGCGACAAGATGCCTGGCCGTGTGGTGACGCTCCTTGAAGATCATGAGGGCTGCAC TTGGGGCGTGGCATACCAAGTGCAAGGGGAGCAGGTAAGCAAGGCCCTGAAGTACCTGAATGTGCGAGAGGCAGT CTATGTGGCCACCCCACAGAACCCTGGTTACCTGGGCCCTGCGCCTGAAGAGGCCATTGCCACGCAGATCCTGGC CTGCCGGGGCTTCTCCGGCCACAACCTTGAATACTTGCTGCGTCTGGCAGACTTCATGCAGCTCTGTGGGCCTCA GGCGCAGGACGAGCACCTGGCAGCCATCGTGGACGCTGTGGGCACCATGTTGCCCTGCTTCTGCCCCACCGAGCA  $\tt GGCTCTGGCGCTGGTG{\color{red}{\bf TGA}} GGGGCTGAGCCCCTGCGGGGAGTGCTCATGTGGACATCAGGGCCAGACACCCACTC$ CCATGTTGGTGGTGGGCAGGTGGAGGGCCTGCCCTGGACACAGGGGCCCTGCTGAGCAGTGGCCCCATCCTGG AACTTGACCAGATTCCCCCCAGTGCTGCTAACCCCACACCACCCAGGCCTCCACCTCCCCAGGGAGTCTCCA AGAGCCTCGATCCTCTGCTCACTCAGCCCAGCCATCCATAGCCCTGGGAATTCCACCTGCCAAGGATCCCAGCAG GCTGGATGAGGGATAGTAGGGCATGAGGAGAAGGAGCCCTGTAAGGACTGAGGCCCCGGCCAGCCCTTCTCCTCC ACCAGTTCCCCAGAGCAGAGCTGGAGCTGATGCCTGGACACAGCTGCTGAGCCTGGGCCTGGGCCTCTTACCCACT TATTCCTGGGAAGCTCATCACTACAGGCCCTGGCAACCTTCCCAGTCTGTCCCATACTGTTACCCATAAAACTAT СТСТТТААААААААААААААААААА

MKQESAAPNTPPTSQSPTPSAQFPRNDGDPQALWIFGYGSLVWRPDFAYSDSRVGFVRGYSRRFWQGDTFHRGSD KMPGRVVTLLEDHEGCTWGVAYQVQGEQVSKALKYLNVREAVLGGYDTKEVTFYPQDAPDQPLKALAYVATPQNP GYLGPAPEEAIATQILACRGFSGHNLEYLLRLADFMQLCGPQAQDEHLAAIVDAVGTMLPCFCPTEQALALV

## FIGURE 4150

AGGCCACAGGGCATGGATCAGCCCCACTGCATCTCAAGTGAACTGTATAGCCAAGTGTTAAACCTCTCACGGGGC AAGCCTGACACAGACCCCCTTTAGATGCTCAGGCATACTGTTTCCATCCCGATTCCACTCTTCGGCTCTGACACG TCCCTTGCAAAGTCTCCGCAGGTGCTGTGAAGAGCCTTCCATGGTAGAGATTTCTCTTAAGAGTGTGATTTCTCA TAGGGCTAGTAAGGGAGATTGTATACCTGTTGTCCACAGTCTTCAGGCAGCTCCCCAGGTCTCTGAACCCCAGAG TGTCGTCATTGGAGAGAGCAGTGACTGCGAGAGATGGTGGAGGCCCGCTAAGCATGGTAGAGGCTAGAGGAAGTCT ATCCACAGGCAGTTGTGTTCCCAGCAATTCCTCCCATCCTGCATGGTTCACACCAAGAGAACCTTCAGATCCTAC GACAGCCTCACTGCCCCTCTTGCAGAGTCCCCTTTGCCCATCCTGAATGCACAGTCTCCCTGCTCATGCCCTTCA GTCCCCTGCTTGGCTGTATGCACTGTCTATATTGCACTGAGAGAGGGACAGGACAGCAGGAGTGAGGTGAAGAGGG CGGAGAGAGGGGGCAGCCTCGGCACCGGCCCTCCCAGCCCGGCCAGCCTGAGCTTGCCCCTCCAGTAGAGACA GAGGGCAGTGTTTGCAAGGGAGGTGTTTCTGCCTGTCCCTGATGTCCCTGGTGGAGCAGGTACCTCCGGG GAGTAGGGGGTATAGGGGAATCATTTAATTTAAATCATTAAGATTCCCCTGCTCAAACCCAGATTCCTGTGTACA GATGCTATTTAGAGGGAATCAGAAAAATGCCAAGCCTTTTCTCTTTGAATGTGCTATTTTTATAACTGAACTTGT ΑΤΤΤΤΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

 ${\tt MVEISLKSVISHRASKGDCIPVVHSLQAAPQVSEPQSVVIGESSDCERWWRPLSMVEARGSLSTGSCVPSNSSHPAWFTPREPSDPTSNRSTFHPGDSQKPVKRPGATSISRTASLPLLQSPLCPS}$ 

## FIGURE 4152

GGGATTTGAACCXCGCTGACGAAGTTTGGTGATCCATCTTCCGAGTATCGCCGGGATTTCGAATCGCCGATGATCA TCCCCTCTAGAGGAGCTGGACTCCCTCAAGTACAGTGACCTGCAGAACTTAGCCAAGAGTCTGGGTCTCCGGG CCAACCTGAGGGCAACCAAGTTGTTAAAAGCCTTGAAAGGCTACATTAAACATGAGGCAAGAAAAGGAAATGAGA ATCAGGATGAAAGTCAAACTTCTGCATCCTCTTGTGATGAGACTGAGATACAGATCAGCAACCAGGAAGAAGCTG AGAGACAGCCACTTGGCCATGTCACCAAAACAAGGAGAAGGTGCAAGACTGTCCGTGTGGACCCTGACTCACAGC AGAATCATTCAGAGATAAAAATAAGTAATCCCACTGAATTCCAGAATCATGAAAAGCAGGAAAGCCAGGATCTCA GAGCTACTGCAAAAGTTCCTTCTCCACCAGACGAGCACCAAGAAGCTGAGAATGCTGTTTCCTCAGGTAACAGAG CTGCAATCACTCCAAACTTTAAGAAGCTTCATGAAGCTCATTTTAAGGAAATGGAGTCCATTGATCAATATA  $\tt TTGAGAGAAAAGAAACATTTTGAAGAACACAATTCC\underline{ATG}AATGAACTGAAGCAGCCCATCAATAAGGGAGG$ GGTCAGGACTCCAGTACCTCCAAGAGGAAGACTCTCTGTGGCTTCTACTCCCATCAGCCAACGACGCTCGCAAGG  $\tt CCGGTCTTGTGGCCCTGCAAGTCAGAGTACCTTGGGTCTGAAGGGGTCACTCAAGCGCTCTGCTATCTCTGCAGC$ AAAGTCTGCACATGTGACCGTGTCTGGGGGCACCCCAAAAGGCGAGGCTGTGCTTGGGACACAAAATTAAAGAC CATCACGGGGAATTCTGCTGCTGTTATTACCCCATTCAAGTTGACAACTGAGGCAACGCAGACTCCAGTCTCCAA TAAGAAACCAGTGTTTGATCTTAAAGCAAGTTTGTCTCGTCCCCTCAACTATGAACCACAAAAGGAAAGCTAAA ACCATGGGGGCAATCTAAAGAAAATAATTATCTAAATCAACATGTCAACAGAATTAACTTCTACAAGAAAACTTA CANACAACCCCATCTCCAGACAAAGGAAGAACGGAAGAAACGCGAGCAAGAACGAAAAGGAGAAAAGCAAAA GGTTTTGGGAATGCGAAGGGGCCTCATTTTGGCTGAAGATTAATAATTTTTTTAATATCTTGTAAATATTCCTGTA CTAACTGTTCATAGTCTGTGTAGTGTCCATGGGTTCTTCATGTGCTATGATCTCTGAAAAGACGTTATCACCTTA AAGCTCAAATTCTTTGGGATGGTTTTTACTTAAGTCCATTAACAATTCAGGTTTCTAACGAGACCCATCCTAAAA TTCTGTTTCTAGATTTTTAATGTCAAGTTCCCAAGTTCCCCTGCTGGTTCTAATATTAACAGAACTGCAGTCTT  $\verb|CTGCTAGCCAATAGCATTTACCTGATGGCAGCTAGTTATGCAAGCTTCAGGAGAATTTGAACAATAACAAGAATA|\\$ GGGTAAGCTGGGATAGAAAGGCCACCTCTTCACTCTCTATAGAATATAGTAACCTTTATGAAACGGGGCCATATA GTTTGGTTATGACATCAATATTTTACCTAGGTGAAATTGTTTAGGCTTATGTACCTTCGTTCAAATATCCTCATG CTACATAGCCCTATCGAAATGCGAGGATTAATGCTTTAATGCTTTTAGAGACAGGGTCTCACTGTGTTGCCCAGG CTGGTCTCAAACTCCACCAAATGTACTTCTTATTCATTTTATGGAAAAGACTAGGCTTTGCTTAGTATCATGTCC GTCAAAAAAAAAAAAAA

PCT/US2003/028547

## 4504/6881 FIGURE 4153

MNELKQQPINKGGVRTPVPPRGRLSVASTPISQRRSQGRSCGPASQSTLGLKGSLKRSAISAAKTGVRFSAATKD NEHKRSLTKTPARKSAHVTVSGGTPKGEAVLGTHKLKTITGNSAAVITPFKLTTEATQTPVSNKKPVFDLKASLS RPLNYEPHKGKLKPWGQSKENNYLNQHVNRINFYKKTYKQPHLQTKEEQRKKREQERKEKKAKVLGMRRGLILAE D

ATCATCATCCCCTCTCTAGAGGAGCTGGACTCCCTCAAGTACAGTGACCTGCAGAACTTAGCCAAGAGTCTGGGT  ${\tt CTCCGGGCCAACCTGAGGGCAACCAAGTTGTTAAAAGCCTTGAAAGGCTACATTAAACATGAGGCAAGAAAAGGA}$ AATGAGAATCAGGATGAAAGTCAAACTTCTGCATCCTCTTGTGATGAGACTGAGATACAGATCAGCAACCAGGAA GAAGCTGAGAGACAGCCACTTGGCCATGTCACCAAAACAAGGAGAAGGTGCAAGACTGTCCGTGTGGACCCTGAC TCACAGCAGAATCATTCAGAGATAAAAATAAGTAATCCCACTGAATTCCAGAATCATGAAAAGCAGGAAAGCCAG GATCTCAGAGCTACTGCAAAAGTTCCTTCTCCACCAGACGAGCACCAAGAAGCTGAGAATGCTGTTTCCTCAGGT AAAAGAACTGCAATCACTACTCCAAACTTTAAGAAGCTTCATGAAGCTCATTTTAAGGAAATGGAGTCCATTGAT GGAGGGGTCAGGACTCCAGTACCTCCAAGAGGAAGACTCTCTGTGGCTTCTACTCCCATCAGCCAACGACGCTCG CAAGGCCGGTCTTGTGGCCCTGCAAGTCAGAGTACCTTGGGTCTGAAGGGGTCACTCAAGCGCTCTGCTATCTCT GCAGCTAAAACGGGTGTCAGGTTTTCAGCTGCTACTAAAGATAATGAGCATAAGCGTTCACTGACCAAGACTCCA GCCAGAAAGTCTGCACATGTGACCGTGTCTGGGGGCACCCCAAAAGGCGAGGCTGTGCTTGGGACACAAATTA AAGACCATCACGGGGAATTCTGCTGCTGTTATTACCCCATTCAAGTTGACAACTGAGGCAACGCAGACTCCAGTC TCCAATAAGAAACCAGTGTTTGATCTTAAAGCAAGTTTGTCTCGTCCCCTCAACTATGAACCACACAAAGGAAAG CTAAAACCATGGGGGCAATCTAAAGAAAATAATTATCTAAATCAACATGTCAACAGAATTAACTTCTACAAGAAA GCAAAGGTTTTGGGAATGCGAAGGGGCCTCATTTTGGCTGAAGAT<u>TAA</u>

MIIPSLEELDSLKYSDLQNLAKSLGLRANLRATKLLKALKGYIKHEARKGNENQDESQTSASSCDETEIQISNQE EAERQPLGHVTKTRRCKTVRVDPDSQQNHSEIKISNPTEFQNHEKQESQDLRATAKVPSPPDEHQEAENAVSSG NRDSKVPSEGKKSLYTDESSKPGKNKRTAITTPNFKKLHEAHFKEMESIDQYIERKKKHFEEHNSMNELKQPINK GGVRTPVPPRGRLSVASTPISQRRSQGRSCGPASQSTLGLKGSLKRSAISAAKTGVRFSAATKDNEHKRSLTKTP ARKSAHVTVSGGTPKGEAVLGTHKLKTITGNSAAVITPFKLTTEATQTPVSNKKPVFDLKASLSRPLNYEPHKGK LKPWGQSKENNYLNQHVNRINFYKKTYKQPHLQTKEEQRKKREQERKEKKAKVLGMRRGLILAED

#### 4507/6881 FIGURE 4156A

CCCCGCCTCCTCCTCCTCGCTCGCGGGCCGGGCCCGGCATGGTGCGGCGTCGCCGATGGCGCTGAGGCGG AGCATGGGGCGGCCGGGCTCCCGCCGCTGCCGCCGCCACCGCGGCTCGGGCTGCTGCTGCCGCCTCTG GCTTCTCTGCTGCTCCCGGAGTCCGCCGCGCAGGTCTGAAGCTCATGGGAGCCCCGGTGAAGCTGACAGTGTCT CAGGGGCAGCCGGTGAAGCTCAACTGCAGTGTGGAGGGGATGGAGGAGCCTGACATCCAGTGGGTGAAGGATGGG GCTGTGGTCCAGAACTTGGACCAGTTGTACATCCCAGTCAGCGAGCAGCACTGGATCGGCTTCCTCAGCCTGAAG TCAGTGGAGCGCTCTGACGCCGGCCGGTACTGGTGCCAGGTGGAGGATGGGGGTGAAACCGAGATCTCCCAGCCA GTGTGGCTCACGGTAGAAGGTGTGCCATTTTTCACAGTGGAGCCAAAAGATCTGGCAGTGCCACCCAATGCCCCT TTCCAACTGTCTTGTGAGGCTGTGGGTCCCCCTGAACCTGTTACCATTGTCTGGTGGAGAGGAACTACGAAGATC GGGGGACCCGCTCCCTCTCCATCTGTTTTAAATGTAACAGGGGTGACCCAGAGCACCATGTTTTCCTGTGAAGCT ATCACCGTGACAAAGCTTTCCAGCAGCAACGCTAGTGTGGCCTGGATGCCAGGTGCTGATGGCCGAGCTCTGCTA CAGTCCTGTACAGTTCAGGTGACACAGGCCCCAGGAGGCTGGGAAGTCCTGGCTGTTGTGGTCCCTGTGCCCCCC TTTACCTGCCTGCTCCGGGACCTGGTGCCTGCCACCAACTACAGCCTCAGGGTGCGCTGTGCCAATGCCTTGGGG GCCATCCGCACAGATTCAGGCCTCATCTTGGAGTGGGAAGAAGTGATCCCCGAGGCCCCTTTGGAAGGCCCCCTG GGACCCTACAAACTGTCCTGGGTTCAAGACAATGGAACCCAGGATGACAGTGGAGGGGGACCAGGGCCAAT TTGACAGGCTGGGATCCCCAAAAGGACCTGATCGTACGTGTGCGTCTCCAATGCAGTTGGCTGTGGACCCTGG AGTCAGCCACTGGTGGTCTCTCTCATGACCGTGCAGGCCAGCAGGGCCCTCCTCACAGCCGCACATCCTGGGTA CCTGTGGTCCTTGGTGTGCTAACGCCCTGGTGACGGCTGCTGCCCTGGCCCTCATCCTGCTTCGAAAGAAGACGG CGGTCCTTCAATCGAGAAAGGCCCGAGCGCATCGAGGCCACATTGGACAGCTTGGGCATCAGCGATGAACTAAAG GAAAAACTGGAGGATGTCCCATCCCAGAGCAGCAGTTCACCCTGGGCCGGATGTTGGGCAAAGGAGAGTTTGGT TCAGTGCGGGAGGCCCAGCTGAAGCAAGAGGATGCCTCCTTTGTGAAAGTGGCTGTGAAGATGCTGAAAGCTGAC ATCATTGCCTCAAGCGACATTGAAGAGTTCCTCAGGGAAGCAGCTTGCATGAAGGAGTTTGACCATCCACACGTG GCCAAACTTGTTGGGGTAAGCCTCCGGAGCAGGGCTAAAGGCCGTCTCCCCATCCCCATGGTCATCTTGCCCTTC ATGAAGCATGGGGACCTGCATGCCTTCCTGCTCGCCTCCCGGATTGGGGAGAACCCCTTTAACCTACCCTCCAG ACCCTGATCCGGTTCATGGTGGACATTGCCTGCGGCATGGAGTACCTGAGCTCTCGGAACTTCATCCACCGAGAC TACAGTGGGGACTACTATCGTCAAGGCTGTGCCTCCAAACTGCCTGTCAAGTGGCCTGGAGGAGCCTGGCC GACAACCTGTATACTGTGCAGAGTGACGTGTGGGCGTTCGGGGTGACCATGTGGGAGATCATGACACGTGGGCAG ACGCCATATGCTGGCATCGAAAACGCTGAGATTTACAACTACCTCATTGGCGGGAACCGCCTGAAACAGCCTCCG GAGTGTATGGAGGACGTGTATGATCTCATGTACCAGTGCTGGAGTGCTGACCCCAAGCAGCGCCCCGAGCTTTACT AACATCGAGAGAGCTGAGGAGCCCACTGCGGGAGGCAGCCTGGAGCTACCTGGCAGGGATCAGCCCTACAGTGGG GCTGGGGATGGCAGTGGGAGTGGGCAGTGGGTGGCACTCCCAGTGACTGTCGGTACATACTCACCCCCGGAGGG  $\verb|CTGGCTGAGCAGGCAGGCAGGCAGGCCAGGCCAGAGGGTCCCCTCAATGAGACACAGAGGCTTTTGCTGCTG|\\$ CAGCAAGGGCTACTGCCACAGTAGCTGTTAGCCCACAGGCAGAGGGCATCGGGGCCATTTGGCCGGCTCTGGT GGCCACTGAGCTGACTAAGCCCCGTCTGACCCCAGCCCAGACAGCAAGGTGTGGAGGCTCCTGTGGTAGTC CTCCCAAGCTGTGCTGGGAAGCCCGGACTGACCAAATCACCCAATCCCAGTTCTTCCTGCAACCACTCTGTGGCC AGCCTGGCATCAGTTTAGGCCTTGGCTTGATGGAAGTGGGCCAGTCCTGGTTGTCTGAACCCAGGCAGCTGGCAG CAGTGGGGTGGTTATGTTTCCATGGTTACCATGGGTGTGGATGGCAGTGTGGGGAGGGCAGGTCCAGCTCTGTGG GCCCTACCCTCCTGCTGAGCTGCCCTGCTTAAGTGCATTGAGCTGCCTCCAGCCTGGTGGCCCAGCT ATTACCACACTTGGGGTTTAAATATCCAGGTGTGCCCCTCCAAGTCACAAAGAGATGTCCTTGTAATATTCCCTT TTAGGTGAGGGTTGGTAAGGGGTTGGTATCTCAGGTCTGAATCTTCACCATCTTTCTGATTCCGCACCCTGCCTA CTATCAGGTGCCCCTCTTCCAAAGGCAGCGTGCCGAGCCAGCAAGAGGGAAGGGGTGCTGTGAGGCTTGCCCAGGA GCAAGTGAGGCCGGAGAGGAGTTCAGGAACCCTTCTCCATACCCACAATCTGAGCACGCTACCAAATCTCAAAAT

ATCCTAAGACTAACAAAGGCAGCTGTGTCTGAGCCCAACCCTTCTAAACGGTGACCTTTAGTGCCAACTTCCCCT

## 4508/6881 FIGURE 4156B

CTAACTGGACAGCCTCTTCTGTCCCAAGTCTCCAGAGAGAAATCAGGCCTGATGAGGGGAAATCCTGGAACCTG GACCCCAGCCTTGGTGGGGGAGCCTCTGGAATGCATGGGGCGGGTCCTAGCTGTTAGGGACATTTCCAAGCTGTT AGTTGCTGTTTAAAATAGAAATAAAATTGAAGACTAAAGACCTA

ATGAATAAAACTGACAAAAATCCTTGCTTTCAGAAATTTGTCATTGCCATCTCAACCAAAACTGGCATTAGCAAT GTAAAAATCCCAAAACATCTTATTGATGCTCACTTCGAGAAGCAGTTGCAGAAGCCCAGACACCAGGAAGGTGAG ATCTCTGACACAGAAAAAGAGAACTACAAAGACTACAGAGCAGTGCAAGATTGATCAGAAAAGCTGTGGACTCACAA ATTGTACGAAAAATCAAAGCTATTCCTCAGCTCCAGGGCTACCTGCGATCTGTGTTTGCCCTGACGAATGGAATT TATCCTCACAAAATTGGTGTTTTAA

 ${\tt MNKTDKNPCFQKFVIAISTKTGISNVKIPKHLIDAHFEKQLQKPRHQEGEISDTEKENYKTTEQCKIDQKAVDSQ}\\ {\tt IVRKIKAIPQLQGYLRSVFALTNGIYPHKLVF}$ 

## FIGURE 4159

GGGAGAGTCGAACCCGGAGCAGGGTCCCATCCGAGCGTGGACTGGCGGCAGGATGTTCAGCTGGATGGGGCGGCA GCGCAAGGTGCTGCCGCTGGAGGAGGCGTACCGCTTCCACGAGTTCCACTCGCCTGCGCTGGAGGACGCCGACTT CGAGAACAAGCCCATGATCCTGCTGGTGGGCCAGTACAGCACCGGCAAGACCACCTTCATCAGATACCTACTGGA GCAGGATTTCCCAGGCATGAGGATTGGTCCGGAGCCCACCACAGACTCCTTCATCGCCGTGATGTATGGAGAGAC TGAGGGCAGCACCCCAGGGAATGCTTTAGTCGTGGACCCCAAAAAGCCGTTTAGAAAGCTCAGTCGCTTTGGAAA CGCTTTCCTGAATCGATTCATGTGCTCACAGCTCCCCAATCAGGTCCTGAAGAGCATCAGCGTCATCGACAGCCC CGGCATCCTTTCTGGGGAGAAGCAGCGCATCAGCCGAGGCTATGACTTCTGCCAGGTCCTGCAGTGGTTTGCCGA GAGGGTGGACAGGATCATCCTGCTCTTTGACGCTCACAAGCTGGACATCTCAGATGAATTCTCAGAGGCCATCAA GGCCTTCCGGGGCCAGGACGACAAGATCCGTGTCGTGCTGAACAAGGCCGACCAAGTGGACACGCAGCAGCTGAT GCGGGTCTACGGGGCCCTCATGTGGTCCCTAGGCAAGGTCATCAACACGCCCGAGGTACTGCGCGTCTACATTGG CTCCTTCTGGGCGCAGCCCCTGCAGAACACGGACAACCGCCGGCTCTTCGAGGCTGAGGCCCAGGACCTCTTTAG GGTGCATGCCTACATCATCAGCTACCTGAAGAAGGAGATGCCAAGTGTATTTGGAAAGGAAAACAAGAAGAAGAAGA GCTTATCAGCAGGCTACCGGAAATCTACATTCAGCTACAGCGAGAATACCAGATTTCTGCAGGGGACTTCCCTGA GGTCAAGGCTATGCAGGAACAGCTTGAGAACTATGACTTCACCAAATTCCACTCGCTGAAGCCCAAGCTGATCGA GGCAGTGGACAACATGCTGAGCAACAAGATCTCGCCCCTCATGAACCTCATCAGCCAGGAGGAGACGAGCACGCC CACGCAGCTGGTGCAGGGCGCCCTTCGATGGCACCACCGAGGGCCCCTTCAACCAGGGCTACGGGGAGGGTGC CAAGGAGGCGCCGACGAGGAGGAGTGGGTCGTGGCCAAAGACAAGCCCGTCTACGACGAGCTCTTCTACACTCT. GTCGCCCATCAATGGCAAGATATCAGGTGTCAACGCCAAGAAGGAGGTGGTGACCTCCAAGCTGCCCAACAGCGT CCTGGGCAAGATCTGGAAGCTGGCCGACTGCGACGGCATGCTTGATGAGGAGGAGTTCGCGCTGGCCAA CAGGAAGTCCCTGCCCAAGGCCGACTGAGGGGTGGGCTGCAGAACGGGGTGGGAACTGGGGGACCTGGGCCTCAG GCCTGCTCCACCACTGACTCACCGAATGACCTTGGGCAAGGCACTGCCCTCTCTGTGCCTTGGTTTCCCCATCTG TAGAATGGGGAGGGTGGACACTGGAAACTAGATGACTTCTTTCACCTCCAAAATTCCCTTAGTTTCTATGAAAAT CTGCCTGGAGAAATGCGCATGGGGGTGGGCCTGGTAAGTCCCAGGAACCACAGGAAGTGAGCTAAGGCTCACCCA AGAGCAGAGGGTTTCTGCTGTCTCCAGACTGTCTACCAAAGAGAAGGCGACAGATGCCTCCTGGGTTTGGAAGGG CCAGTGCCCCGATGACCATCTGGTCAGCCCTCCCAACCTCCCTTCCAGGGGGCTTACCAGCAAAGCCATATTCGG CTAGGAATTTGGAATTCACAACCTTTATTAACCCCTGGCAAAACTTCCCGTTTGCATGTCAAATCACATTGAAGC CTGAAAATTAGCTTTTCTTACTGGTTTTTCCAATAAGTAATAGCAAAGCCCACTTATCATACTTAAACTACAGTA AAGAAAAGAGGTGGTTCTCTGCAGTGATCGTTTAGTGTGGCCCTCAAACATTAAATATCCCGAGGTCTCCTTGGT GGGTGGCAGGATTTAAATTCAATCAAATCCTGTCCTAGTGTGTGCAGTGTCTTCGGCCCTGTGGACACAGGTGAA TGAGGGACCAGCCCTGCCCTGGGCTGTTGAGAAGAGATCAGTCCACCCAGAGTTAGACATTGTTTTTGTAGAAAA ATGGAACCTTTCATATAAAACCTTTTCTTT

ATGCCGACCGTCATTAGCGCATCTGTGGCTCCAAGGACAGCGGCTGAGCCCCGGTCCCCAGGGCCAGTTCCTCAC GTGGACCCTGAGTTCCCACCGGATGAGACCTCTCTTTTTATAGCCAGAAGTTCCCCATCCAGTTCGTCTGGAAG AGACCTCCGGAAATTTGCGAGAATCCCCGATTTATCATTGATGGAGCCAACAGAACTGACATCTGTCAAGGAGAG CTAGGGGACTGCTGGTTTCTCGCAGCCATTGCCTGACCCTGAACCAGCACCTTCTTTTCCGAGTCATACCC GTGGTTATAGATGACTGCCTGCCAACGTACAACAATCAACTGGTTTTCACCAAGTCCAACCACCGCAATGAGTTC TGGAGTGCTCTGCTGGAGAAGGCTTATGCTAAGCTCCATGGTTCCTACGAAGCTCTGAAAGGTGGGAACACCACA GAGGCCATGGAGGACTTCACAGGAGGGGTGGCAGAGTTTTTTGAGATCAGGGATGCTCCTAGTGACATGTACAAG ATCATGAAGAAAGCCATCGAGAGAGGCTCCCTCATGGGCTGCTCCATTGATGATGACGCACGAACATGACCTATGGA ACCTCTCCTTCTGGTCTGAACATGGGGGAGTTGATTGCACGGATGGTAAGGAATATGGATAACTCACTGCTCCAG ATGGCCTGCGGGCTGGTCAGAGGTCACGCCTACTCTGTCACGGGGCTGGATGAGGTCCCGTTCAAAGGTGAGAAA GTGAAGCTGGTGCGGCTGCGGAATCCGTGGGGCCAGGTGGAGTGGAACGGTTCTTGGAGTGATAGATGGAAGGAC TGGAGCTTTGTGGACAAAGATGAGAAGGCCCGTCTGCAGCACCAGGTCACTGAGGATGGAGAGTTCTGGATGTCC TATGAGGATTTCATCTACCATTTCACAAAGTTGGAGATCTGCAACCTCACGGCCGATGCTCTGCAGTCTGACAAG CTTCAGACCTGGACAGTGTCTGTGAACGAGGGCCGCTGGGTACGGGGTTGCTCTGCCGGAGGCTGCCGCAACTTC CCAGATACTTTCTGGACCAACCCTCAGTACCGTCTGAAGCTCCTGGAGGAGGACGATGACCCTGATGACTCGGAG GTGATTTGCAGCTTCCTGGTGGCCCTGATGCAGAAGAACCGGCGGAAGGACCGGAAGCTAGGGGCCAGTCTCTTC ACCATTGGCTTCGCCATCTACGAGGTTCCCAAAGAGATGCACGGGAACAAGCAGCACCTGCAGAAGGACTTCTTC CCCAGCGAGTACGTCATCGTGCCCTCCACCTACGAGCCCCACCAGGAGGGGGAATTCATCCTCCGGGTCTTCTCT CCCATCATCTTCGTTTCGGACAGAGCAAACAGCAACAAGGAGCTGGGTGTGGACCAGGAGTCAGAGGAGGCAAA GGCAAAACAAGCCCTGATAAGCAAAAGCAGTCCCCACAGCCACAGCCTGGCAGCTCTGATCAGGAAAGTGAGGAA CAGCAACAATTCCGGAACATTTTCAAGCAGATAGCAGGAGATGACATGGAGATCTGTGCAGATGAGCTCAAGAAG GTCCTTAACACAGTCGTGAACAAACACAAGGACCTGAAGACACACGGGTTCACACTGGAGTCCTGCCGTAGCATG ATTGCGCTCATGGATACAGATGGCTCTGGAAAGCTCAACCTGCAGGAGTTCCACCACCTCTGGAACAAGATTAAG GCCTGGCAGAAAATTTTCAAACACTATGACACAGACCAGTCCGGCACCATCAACAGCTACGAGATGCGAAATGCA GTCAACGACGCAGGATTCCACCTCAACAACCAGCTCTATGACATCATTACCATGCGGTACGCAGACAAACACATG AACATCGACTTTGACAGTTTCATCTGCTGCTTCGTTAGGCTGGAGGGCATGTTCAGAGCTTTTCATGCATTTGAC AAGGATGGAGATGGTATCATCAAGCTCAACGTTCTGGAGTGGCTGCAGCTCACCATGTATGCC<u>TGA</u>

MPTVISASVAPRTAAEPRSPGPVPHPAQSKATEAGGGNPSGIYSAIISRNFPIIGVKEKTFEQLHKKCLEKKVLY VDPEFPPDETSLFYSQKFPIQFVWKRPPEICENPRFIIDGANRTDICQGELGDCWFLAAIACLTLNQHLLFRVIP HDQSFIENYAGIFHFQFWRYGEWVDVVIDDCLPTYNNQLVFTKSNHRNEFWSALLEKAYAKLHGSYEALKGGNTT EAMEDFTGGVAEFFEIRDAPSDMYKIMKKAIERGSLMGCSIDDGTNMTYGTSPSGLNMGELIARMVRNMDNSLLQ DSDLDPRGSDERPTRTIIPVQYETRMACGLVRGHAYSVTGLDEVPFKGEKVKLVRLRNPWGQVEWNGSWSDRWKD WSFVDKDEKARLQHQVTEDGEFWMSYEDFIYHFTKLEICNLTADALQSDKLQTWTVSVNEGRWVRGCSAGGCRNF PDTFWTNPQYRLKLLEEDDDPDDSEVICSFLVALMQKNRRKDRKLGASLFTIGFAIYEVPKEMHGNKQHLQKDFF LYNASKARSKTYINMREVSQRFRLPPSEYVIVPSTYEPHQEGEFILRVFSEKRNLSEEVENTISVDRPVKKKKTK PIIFVSDRANSNKELGVDQESEEGKGKTSPDKQKQSPQPQPGSSDQESEEQQQFRNIFKQIAGDDMEICADELKK VLNTVVNKHKDLKTHGFTLESCRSMIALMDTDGSGKLNLQEFHHLWNKIKAWQKIFKHYDTDQSGTINSYEMRNA VNDAGFHLNNQLYDIITMRYADKHMNIDFDSFICCFVRLEGMFRAFHAFDKDGDGIIKLNVLEWLQLTMYA

### 4515/6881 FIGURE 4163A

CAACAATTTATAGAATTGGATTGAAAGTGCCACCTGATGAAAGGGATCCTCGAGTCCCCATGCTGACCTGGAGCA CCTGCGCTTTCACTATCCAGGCAATTGAAAATCTATTGGGAGATGAAGGAAAACCTCTGTTTGGAGCACTTCAAA ATAGGCAGCATA**ATG**GTCTGAAAGCATTAATGCAGTTTGCAGTTGCACAGAGGATTACCTGTCCTCAGGTCCTGA TACAGAAACATCTGGTTCGTCTTCTATCAGTTGTTCTTCCTAACATAAAATCAGAAGATACACCATGCCTTCTGT CTATAGATCTGTTTCATGTTTTGGTGGGTGCTGTTTTAGCATTCCCATCCTTGTATTGGGATGACCCTGTTGATC TGCAGCCTTCTTCAGTTAGTTCTTCCTATAACCACCTTTATCTCTTCCATTTGATCACCATGGCACACATGCTTC AGATACTACATTACAGTAGACACAGGCCTACCCCTTGCTCAGGTTCAAGAAGACAGTGAAGAGGCTCATTCCGCAT TCTCACTGAAGAATGGCATCACCCCTTATCTTCGCTGTGCTGCATTGTTTTTCCACTATTTACTTGGGGTAACTC ATTTGTTCCTGCTCTTCCAGGAATATTGGGATACTGTAAGGCCCTTGCTCCAGAGGTGGTGTGCAGATCCTGCCT TACTAAACTGTTTGAAGCAAAAAAACACCGTGGTCAGGTACCCTAGAAAAAAGAAATAGTTTGATAGAGCTTCCTG CTGTCCTCTGCCTTTTCTGTGGGGCTATACTATGTTCTCAGAACATTTGCTGCCAGGAAATTGTGAACGGGGAAG AGGTTGGAGCTTGCATTTTTCACGCACTTCACTGTGGAGCCGGAGTCTGCATTTTCCTAAAAATCAGAGAATGCC GAGTGGTCCTGGTTGAAGGTAAAGCCAGAGGCTGTGCCTATCCAGCTCCTTACTTGGATGAATATGGAGAAACAG ACCCTGGCCTGAAGAGGGGCAACCCCCTTCATTTATCTCGTGAGCGGTATCGGAAGCTCCATTTGGTCTGGCAAC AACACTGCATTATAGAAGAGTTGCTAGGAGCCAAGAGACTAATCAGATGTTATTTGGATTCAACTGGCAGTTAC TGTGAGCTCCAACTCTGCCTCAAGACAATCACAAATGACGACAGTAGTAAAGGCTGATTCAAAATTATGGAAAAC TTTCTGAGGGCTGGGAAAGTATTGGAGGGTCTTTTGCTCCATGTCCAGGTTCACTTACATCAATAAAATATTTCT TAATGGAGTATTGCTTTCAATTAGCAAACATATGCTTCACAGGAAAAAAGGACATAGATCAATCTGTTTTATGTG CTAGTATTTCCAGGAATTTATTCCCCTTCATAATTTGTCTCATTTCATTTTATTTCATCCACTTGGTAGATGAAG TCACGTCAAACAGTTGTAGACATTTTATATGTTGGTTAACTCTTCTGCAATTTTGTATTTGGTGTTTTCCCCCCA AGTTTAGTTCAACTGACATTGGATCACTGACAAAATTCTAATAATCTGTGATAGTCTTCCTTGCAGTTAAAGAAG ACCCCTAATGTGCCACCTGCTGCTATCACCACAAATTAAACTCAATCTCTATGTGGACAGAGGATGATTTCTGCC GTACAAAGAGCTTGCAGTTCTCACCTCTGACTACCAGTAGCTTTGTTGAGTTTTTGAAATAATACTTGACATTTTC CAAAGGCAAATCTCATTCTGCAAGGAGATTGTGGCACCATCCTGTTTGACTCTCAGAAACCTCTTGTAATTCTGA TGTAAAAACTGTAGAATGAGATGAGAAAATTCTCGCAATGAGTGGATCATGACAACTGTAAATTAGAACAATCA GATTTAAACCAATTCCGCAGTCTTCTATATCTTTGTAAAAGACAAATCCTTGATGTTGTCTGTGTGCAACCTTTT CATAAACTCTGGTTTTATGACTAGTACAAACCACCAAAAAAGCCATGTGATCAATAGTCTGTGTCCTGTTATAAC ATGCTGTGGTTGAGCCATCTTGTTTATAAATAATAGAGCTCTCCTGAATTTGTGCATAGACTTCTTGGTTCCTGG CTTTTGTTTTTTGTATCAAGAGATTGTGATATAAAACAGCAGAAGATAAATGGAAACCTTCCATTTTAACTTACG TTGTTTCTGGGGTAATGTTAGAACCTTGAAAGATGCATTCAAAGACTGTATCTTATTTTGCCCTTGGCTATTAGT AAGTGATTAGTGATGCACATTTGGGGCTAGATTTTTTTGGTACTTTTATGTAAAGAAAAGTGGATTTTGCAGTAA GGGATTGGCATGAGCAGGCGTCAGAATCACAATCATGATTTTCTACTTGAATAATTACAATTCAGAAGGTATCTG GATAAATAGATACATGTCTAGTGAACAATTTGTAACAATAACAGGTAAGGATCAGGAAATTCAGTATTCAGTTTG TGACTGGGAAATCTGGGCTAGAATAGGAAACAGAAGATACTGACTTCTACCCTAATAGATGGGCCCCAATTTAGC AAAGATAAACTGACTTTATTTTTAGTCCTTTTTATATTAACTTAATAAATTCTGGAGTTAGGCTCTCAAGAGGAC AGAGGGACTGTCTGGCAATGGCCAGCCAGACCTTTACTGCCAAAGAACCCATTTCATATTGCGTTCCACTGATTG AGATTGATTCAGATTTTTGCACTGTAGATGAGCGTATGTCTCAGTGCCCCCAAGCCCCAGGGATTTCTCATTA CTGAGTCACTTTATTTTCTTTAGTGTAGTATGTGAAGGCACTGGTTCAACAGGATGGCTCCAGAACTGTGTTTTT ATATTGGTGTATGGGCTGTGAGTTCACCTTTTAGTGGTCATTTGTCATTAACAACTATGCATTTTGGTTCA

# 4516/6881 FIGURE 4163B

MAHMLQILLTVDTGLPLAQVQEDSEEAHSASSFFAEISQYTSGSIGCDIPGWYLWVSLKNGITPYLRCAALFFHY LLGVTPPEELHTNSAEGEYSALCSYLSLPTNLFLLFQEYWDTVRPLLQRWCADPALLNCLKQKNTVVRYPRKRNS LIELPDDYSCLLNQASHFRCPRSADDERKHPVLCLFCGAILCSQNICCQEIVNGEEVGACIFHALHCGAGVCIFL KIRECRVVLVEGKARGCAYPAPYLDEYGETDPGLKRGNPLHLSRERYRKLHLVWQQHCIIEEIARSQETNQMLFG FNWQLL

WRLARTRALRKAAKREPRRKWLIRFLRKIGMIRKHLLCSIYENIGKMLVTRTQGTKIASDDLKGHVFEVSLADLQ NDEVAFRKFKLITEDVQGKNCLTNFHGMDLTRDKTCSMVKKWQTMIEAHVDVKTTDGYLLHLFCVGFNKKRNNQI WKTSYAQHQQVRQIRKKMMEITTREVQTNDLKEVVNKLIPDSIGKDIEKACQSIYPLRDVFVRKVKMLKKPKFEL GRLMELHGEGSSSGKATGDETGAKVGRADGYEPPVQESV

### 4520/6881 FIGURE 4167A

CACAACCGTGACAGACTGCCATTCCTGAGTCTCTTCTGGCCATGGGCCCCCGGAGCCGTGAGCGTCGGGCAGGCG TTGCCGCGTTGCTGGTTCCGGGCGCGCGCGCCGCGCACCGCTCATTCACCGAGGCTACTACGTCCGCGCACGCG  $\tt CCGTGAGGCACTGCGTGCGCGCTTTTTTGGAGCAGATTGGCGCGCCCCAGGCCGCGCTTCGCGCGCAGATCTTGT$ CTCTCGGCGCTGGCTTCGACTCGCTCTATTTTCGCTTAAAAACCGCGGGCCGCCTGGCCCGGGCTGCAGTCTGGG AGGTGGATTTTCCGGACGTGGCGCGCGCAAAGCAGAAAGGATTGGAGAGACGCCAGAGCTGTGCGCGTTAACCG GGCCTTTCGAGAGGGGGGAGCCCGCGTCCGCGCTGTGCTTTGAGAGCGCAGACTACTGCATCCTGGGTCTGGACT TGCGGCAGCTCCAGCGAGTGGAGGAGGCCCTGGGCGCCGCGGGGCTCGACGCAGCCTCACCCACTCTGCTCCTGG CCGAGGCGGTGCTGACCTACCTCGAGCCGGAGAGTGCCGCGGCCCTCATCGCCTGGGCAGCCCAGCGTTTTCCTA ATGCCCTTTTCGTGGTCTATGAGCAGATGAGGCCTCAAGACGCCTTTGGCCAGTTCATGCTGCAACATTTTCGGC GCTGGACCGCCTGCGGTGCCGTGGACATGAATGAATTCTATCACTGCTTTCTTCCCGCAGAAGAACGCCGGCGGG TGGAAAATATTGAACCCTTTGACGAATTTGAGGAGTGGCATCTGAAGTGCGCCCATTATTTCATTCTGGCAGCTT CTAGGGGAGACACCCTCCCCACACCCTAGTGTTTCCATCCTCAGAGGCATTTCCTCGCGTAAATCCTGCTTCGC CTTCAGGGGTATTCCCTGCCAGCGTAGTCAGTAGCGAGGGCCAGGTCCCAAACCTGAAGAGATATGGCCACGCCT GCCAGTTTCACTTGCTCTCAAGAGATTGTGACTCTGAATGGAAAGGCAGCCAAATAGGCAGTTGTGGGACTGGAG TGTCCCCAGTAAGTCCAGCCTTGGGGGTTCTCCAGCTTCATTTTTTTAAGAGTGAGGATAATAACACTGAGGACC TGAAAGTGACAATAACAAAGGCTGGCCGAAAGGATGATTCCACTTTGTGTTGTTGGCGGCATTCAACAACAGAAG TGTCCTGTCAGAATCAGGAATATTTGTTTTGTGTATGGGGGTCGAAGCGTGGTGGAACCTGTACTAAGTGACTGGC ACAGTGCCTGCACTTGGCAAGGGGGGCCCTTATTGCTGGAGGTCTCGGGGGCTTCTGAGGAGCCATTGAACTCTG TGCTCTTTCTGAGACCAATCTCTTGTGGATTCCTCTGGGAGTCAGTAGACATCCAGCCTCCCATTACCCCAAGGT CTGGAGTGACTGTGATCAATTTGACTACAGGATTGAGCTCTGAGTATCAGATTGACACAACATATGTGCCATGGC CATTAATGTTACACAACCATACTAGTATCCTTCTTCCTGAAGAGCAACAGCTCCTGCTCCTTGGAGGTGGTGGGA ACTGCTTTTCCTTTGGTACCTACTTCAACCCCCATACAGTCACATTAGACCTTTCTTCCTTAAGTGCTGGGCAGT AAGGACTGGACTAATATTCAGGACCCACTAAAGTAGACAATAAAGTTTTCCACAAATAGGATGACCCTCTAGCTA TAGATACTGCCACTCCTTTCCCCATCCTTTTTTTCCCTTAGCACTATTCAGTGCAAAAAGTGAAAAAGGTTG GTAAAATAGGTAAAATACCTAGAAACAATCACTACAGAAAACAGCTGAAGACAGTGGCCATGCAGTCCGAGAGGA GTAGTGGTCTGCCTCTAATTTTCTAATCTAAGTTCGTTTATTGAGTTACAGTGGTCTTTAGTAAAAGTAAAACAAT TTCCCAATCCCAGGCCTTGTGATTTGAGATGGTACCTTAGAAAAAGTTACACGCAGTTCCGTGGTTGAATATATT TGAGATGGTACCTTAGAAAAAGTTTCACGCAGATCCTTGGTTGAATATAGTTGAGGGAGCGTAGTATTGACAATT TCGGATAGTTTTAACAACAGGAAACACTTGTAGGACTTCCTTTACCAACATACTTTTTAAATGTTTTGCTATTGG TTCCATATTTATTTAGATTTATAAGTGTCAATAAAGCAAACTTTTGATGCCTCAATTCATTTTGCACGGGGTATA ATAATGTTTTGTTCCAGATATACTCTCCACCTTTCACTGTTCTGTGCTCCAAGAGGCTGACCTTTATGGGCTGCA TCAAGGAGCTCTCTTTACTTTTTGGTTGAGTTCCACCAGTCAGAGGCACCAGAGGGGAATGGGGGCAAAAAGAAG AGTGAGAGTGAGTTGGTATTTATTCCCAATTCTTCCCCTGTTGGTTTGCAAGTTGGCAGTGGCAGCATTCTTCTG TCAAAGGCTACAGCTCCTGCCGTGTAATCCTTTCCTGAAGACAGAGTTCTAATTCTGCATCATCCCAGGTTTCAG TAATTGTTCCTTTACTTCACCTTTTCAGGCCTAGGAGTTGTGATGGCTCTTTGCTAGACCTGAACTGTACTGTCC AATGTGGTAGCTATTGACAACATGTGACTATTTAAACGAATTAATAAATTCAGTGGCTTAGTCACATTGACCACA TTTTAAGTGCTTAATAACTATGTGTGGCTTTGGCTACTGTATTAGACAATGTAGATGTAGAACATTTCATCGTTA CAGAAATTTCTACTGGACACTGCTGACTGGATATCTTGACTTGGTTTCCCTTAACCCTACTCAGCCCCTTATAGT TAGCATCCCATTAAACTCAATTATCCCTTTTAAATGGGAATCTGTTGCCTAGTGAGCCATGTGAGATCAATGAAA TAGCTATTCATCCTTAAAATTTGAGCCTTAATTTGTCATCTAAATTATGCATACCTTGTGAAATATACACCTCAA AAAATGTAGTGGCTTTGGTGGTAATAAGTGTATTACTTTAGTATTTCTTCTTAGTCCTAGAAACCTTAGTAGTTT

### 4521/6881 FIGURE 4167B

 $\texttt{GA} \underline{\textbf{ATG}} \texttt{ATCCACGAACTGCTCTTGGCTCTGAGCGGGTACCCTGGGTCCATTTTCACCTGGAACAAGCGGAGTGGCC}$ TGCAGGTATCGCAGGACTTCCCTTTCCTCCACCCCAGTGAGACCAGTGTCCTGAATCGACTCTGCCGGCTCGGCA AACAGGGCCAAGGTGGGTTACATGGAATCTACCTGCGGGCCTTCTGCACAGGGCTGGATTCTGTTTTGCAGCCTT . ATCGCCAAGCACTGCTTGATTTGGAACAAGAGTTCCTGGGTGATCCCCATCTCTCCATATCACATGTCAACTACT TCCTAGACCAGTTCCAGCTTCTTTTTCCCTCTGTGATGGTTGTAGTAGAACAAATTAAAAGTCAAAAGATTCATG GTTGTCAAATCCTGGAAACAGTCTACAAACACAGCTGTGGGGGGGTTGCCTCCTGTTCGAAGTGCACTGGAAAAAA TCCTGGCCGTTTGTCATGGGGTCATGTATAAACAGCTCTCAGCCTGGATGCTCCATGGACTCCTCTTGGACCAGC TGGGCATTGGGGGACTGACAGGAAAACAACTGAGAGAACTGCAGGACTTGCGCCTGATTGAGGAAGAAACATGC TGGCACCATCTCTGAAGCAGTTTTCCCTACGAGTGGAGATTTTGCCATCCTACATTCCAGTGAGGGTTGCTGAAA AAATCCTATTTGTTGGAGAATCTGTCCAGATGTTTGAGAATCAAAATGTGAACCTGACTAGAAAAAGGATCCATTT TGAAAAACCAGGAAGACACTTTTGCTGCAGAGCTGCACCGTCTCAAGCAGCCACCCCTCTTCAGCTTGGTGGACT TTGAACAGGTGGTGGATCGCATTCGCAGCACTGTGGCTGAGCATCTCTGGAAGTTGATGGTAGAAGAATCCGATT TACTGGGTCAGCTGAAGATCATTAAAGACTTTTACCTTCTGGGACGTGGAGAACTGTTTCAGGCCTTCATTGACA CAGCTCAACACATGTTGAAAACACCACCCACTGCAGTAACTGAGCATGATGTGAATGTGGCCTTTCAACAGTCAG CACACAAGGTATTGCTAGATGATGACAACCTTCTCCCTCTGTTGCACTTGACAATCGAGTATCACGGAAAGGAGC ACAAAGCAGATGCTACTCAGGCAAGAGAAGGGCCTTCTCGGGAAACTTCTCCCCGGGAAGCCCCTGCATCTGGCT GGGCAGCCCTAGGTCTTTCCTACAAAGTACAGTGGCCACTACATATTCTCTTCACCCCAGCTGTCCTGGAAAAGT ACAATGTTGTTTTTAAGTACTTACTGAGTGTGCGCCGGGTGCAAGCTGAGCTGCAGCACCTGCTGGGCCCTACAAA TGCAGCGCAAGCACCTCAAGTCGAACCAGACTGATGCAATCAAGTGGCGCCTAAGAAATCACATGGCATTTTTGG TGGATAATCTTCAGTACTATCTCCAGGTAGATGTGTTGGAGTCTCAGTTCTCCCAGCTGCTTCATCAGATCAATT CTACCCGAGACTTTGAAAGCATCCGATTGGCTCATGACCACTTCCTGAGCAATTTGCTGGCTCAATCCTTTATCC ACCTAGGCCCACTGGATGAGCGTGGAGCCCCCAGCTGAGCATTCTCGTGAAGGGCTTTAGCCGCCAGTCTTCAC TCCTGTTCAAGATTCTCTCCAGTGTTCGGAATCATCAGATCAACTCAGATTTGGCTCAACTACTGTTACGACTAG ATTATAACAAATACTATACCCAGGCTGGTGGAACTCTGGGCAGTTTCGGGATG<u>TGA</u>

MIHELLLALSGYPGSIFTWNKRSGLQVSQDFPFLHPSETSVLNRLCRLGTDYIRFTEFIEQYTGHVQQQDHHPSQ QGQGGLHGIYLRAFCTGLDSVLQPYRQALLDLEQEFLGDPHLSISHVNYFLDQFQLLFPSVMVVVEQIKSQKIHG CQILETVYKHSCGGLPPVRSALEKILAVCHGVMYKQLSAWMLHGLLLDQHEEFFIKQGPSSGNVSAQPEEDEEDL GIGGLTGKQLRELQDLRLIEEENMLAPSLKQFSLRVEILPSYIPVRVAEKILFVGESVQMFENQNVNLTRKGSIL KNQEDTFAAELHRLKQQPLFSLVDFEQVVDRIRSTVAEHLWKLMVEESDLLGQLKIIKDFYLLGRGELFQAFIDT AQHMLKTPPTAVTEHDVNVAFQQSAHKVLLDDDNLLPLHLTIEYHGKEHKADATQAREGPSRETSPREAPASGW AALGLSYKVQWPLHILFTPAVLEKYNVVFKYLLSVRRVQAELQHCWALQMQRKHLKSNQTDAIKWRLRNHMAFLV DNLQYYLQVDVLESQFSQLLHQINSTRDFESIRLAHDHFLSNLLAQSFILLKPVFHCLNEILDLCHSFCSLVSQN LGPLDERGAAQLSILVKGFSRQSSLLFKILSSVRNHQINSDLAQLLLRLDYNKYYTQAGGTLGSFGM

### 4524/6881 FIGURE 4170A

CGTTGTTTGGCGTGTTTTTTTTTTTTTTTTTTTTTCCCCTGCCTGGGTCCTGCCCGAGGTCTCCATCCTCGGT  ${\tt TTCCCTGTCCTTGCCCCGGGCCCTGGGAGTGCTCTGGAAGGCTGCGCAGTATTGGAGGGGACAGAATGACCTTCC}$ GGCCTTGAGTCCCTGGGGAGCAGATCGACCCTACTGGAAGTCAGTTGGATTCAGATTTCTCTCAGCAAGATACTC CTTGCCTGATAATTGAAGATTCTCAGCCTGAAAGCCAGGTTCTAGAGGATGATTCTGGTTCTCACTTCAGTATGC TATCTCGACACCTTCCTAATCTCCAGACGCACAAAGAAAATCCTGTGTTGGATGTTGTGTCCAATCCTGAACAAA AGAAAGAGAAGAAGAAGATACTTCAGGCAATACTACACATTCCCTTGGTGCTGAAGATACTGCCTCATCACAGT TGGGTTTTGGGGTTCTGGAACTCTCCCAGAGCCAGGATGTTGAGGAAAATACTGTGCCATATGAAGTGGACAAAG AGCAGCTACAATCAGTAACCACCAACTCTGGTTATACCAGGCTGTCTGATGTGGATGCTAATACTGCAATTAAGC ATGAAGAACAGTCCAACGAAGATATCCCCATAGCAGAACAGTCCAGCAAGGACATCCCTGTGACAGCACAGCCCA GTAAGGATGTACATGTTGTAAAAGAGCAAAATCCACCACCTGCAAGGTCAGAGGACATGCCTTTTAGCCCCAAAG CATCTGTTGCTGCTATGGAAGCAAAAGAACAGTTGTCTGCACAAGAACTTATGGAAAGTGGACTGCAGATTCAGA AGTCACCAGAGCCTGAGGTTTTGTCAACTCAGGAAGACTTGTTTGACCAGAGCAATAAAACAGTATCTTCTGATG GTTGCTCTACTCCTTCAAGGGAGGAAGGTGGGTGTTCTTTGGCTTCCACTCCTGCCACCACTCTGCATCTCCTGC AGCTCTCTGGTCAGAGGTCCCTTGTTCAGGACAGTCTTTCCACGAATTCTTCAGATCTTGTTGCTCCTTCTCCTG ATGCTTTCCGATCTACTCCTTTTATCGTTCCTAGCAGTCCCACAGAGCAAGAAGGGAGACAAGATAAGCCAATGG ACACGTCAGTGTTATCTGAAGAAGGAGGAGGAGCCTTTTCAGAAGAAACTTCAAAGTGGTGAACCAGTGGAGTTAG AAAACCCCCCTCTCCTGCCTGAGTCCACTGTATCACCACAAGCCTCAACACCAATATCTCAGAGCACACCAGTCT AAGAACAATCAAATGATGGGAAGAAAGATGGAGATATGCATAGTTCATCTTTGACAGTTGAGTGTTCTAAAACTT CAGAGATTGAACCAAAGAATTCCCCTGAGGATCTTGGGCTATCTTTGACAGGGGGATTCTTGCAAGTTGATGCTTT CTACAAGTGAATATAGTCAGTCCCCAAAGATGGAGAGCTTGAGTTCTCACAGAATTGATGAAGATGGAGAAAACA CACAGATTGAGGATACGGAACCCATGTCTCCAGTTCTCAATTCTAAATTTGTTCCTGCTGAAAATGATAGTATCC TGATGAATCCAGCACAGGATGGTGAAGTACAACTGAGTCAGAATGATGACAAAACAAAGGGAGATGATACAGACA CCAGGGATGACATTAGTATTTTAGCCACTGGTTGCAAGGGCAGAGAAGAAACGGTAGCAGAAGATGTTTGTATTG ATCTCACTTGTGATTCGGGGAGTCAGGCAGTTCCGTCACCAGCTACTCGATCTGAGGCACTTTCTAGTGTGTTAG ATCAGGAGGAAGCTATGGAAATTAAAGAACACCATCCAGAGGAGGGGTCTTCAGGGTCTGAGGTGGAAGAAATCC  $\tt CTGAGACACCTTGTGAAAGTCAAGGAGGAGGAACTCAAAGAAGAAAATATGGAGAGTGTTCCGTTGCACCTTTCTC$ TTGAAACCAGTGTGATTAGTATTGATTCCCCTCAAAAGTTGGCAATACTTGACCAAGAATTGGAACATAAGGAAC AGGAAGCTTGGGAAGAAGCTACTTCAGAGGACTCCAGTGTTGTCATTGTAGATGTGAAAGAGCCATCTCCCAGAG TTGATGTTTCTTGTGAACCTTTGGAGGGAGTGGAGAAGTGCTCAGATTCCCAGTCATGGGAGGATATTGCTCCAG AAATAGAACCATGTGCTGAGAATAGATTAGACACCAAGGAGAGAAAAGAGTGTAGAATATGAAGGAGATCTGAAAT CTTTAAGACTTGACCAGGAGTTGCAGCAGCCCCAAACTCAGGAGAAAACAAGTAATTCATTAACAGAAGACTCAA AAATGGCTAATGCAAAGCAGCTAAGCTCAGATGCAGAGGCCCAGAAGCTGGGGAAGCCCTCTGCCCATGCCTCAC AAAGCTTCTGTGAAAGTTCTAGTGAAACCCCATTTCATTTCACTTTGCCTAAAGAAGGTGATATCATCCCACCAT TGACTGGTGCAACCCCACCTCTTATTGGGCACCTAAAATTGGAGCCCAAGAGACACAGTACTCCTATTGGTATTA GCAACTATCCAGAAAGCACCATAGCAACCAGTGATGTCATGTCTGAAAGCATGGTGGAGACCCATGATCCCATAC TTGGGAGTGGAAAAGGGGATTCTGGGGCTGCCCCAGACGTGGATGATAAATTATGTCTAAGAATGAAACTGGTTA GATCTACTGCTGTTGCTGAGTCTGTTGCCAGTCCCCAGAAGACCATGTCTGTTGAGCTGTATCTGTGAAGCCA GGCAAGAGAATGAGGCTCGAAGTGAGGATCCCCCCACCACCACCCCATCAGGGGGAACTTGCTCCACTTTCCAAGTT CTCAAGGAGAAGAGAAAAAATTGGAGGGTGACCATACAATCAGGCAGAGTCAACAGCCTATGAAGCCCA TTAGTCCTGTCAAGGACCCTGTTTCTCCTGCTTCCCAGAAGATGGTCATACAAGGGCCATCCAGTCCTCAAGGAG AGGCAATGGTGACAGATGTGCTAGAAGACCAGAAAGAAGGACGGAGTACTAATAAGGAAAATCCTAGTAAGGCCT

# FIGURE 4170B

TGATTGAAAGGCCCAGCCAAAATAACATAGGAATCCAAACCATGGAGTGTTCCTTGAGGGTCCCAGAAACTGTTT CAGCAGCAACCCAGACTATAAAGAATGTGTGTGAGCAGGGGACCAGTACAGTGGACCAGAACTTTGGAAAGCAAG ATAGCCAGGGAGAAGAAGAGTTTGATATGCCTCAGCCTCCACATGGCCATGTCTTACATCGTCACATGAGAACAA AAGTAACTGAGGAGACTGAAGAGCCAATTGTAGAGTGTCAGGAGTGTGAAACTGAAGTTTCCCCTTCACAGACTG GGGGCTCCTCAGGTGACCTGGGGGATATCAGCTCCTTCTCCTCCAAGGCATCCAGCTTACACCGCACATCAAGTG GGACAAGTCTCTCAGCTATGCACAGCAGTGGAAGCTCAGGGAAAGGAGCCGGACCACTCAGAGGGAAAACCAGCG GGACAGAACCCGCAGATTTTGCCTTACCCAGCTCCCGAGGAGGCCCCAGGAAAACTGAGTCCTAGAAAAGGGGTCA TCACGCCTCGTGGGCGTGGGCGAAGGGGCCGCCCACCTTCTCGGACCACTGGAACCAGAGAAACAGCTGTGCCTG GCCCCTTGGGCATAGAGGACATTTCACCTAACTTGTCACCAGATGATAAATCCTTCAGCCGTGTCGTGCCCCGAG TGCCAGACTCCACCAGACGAACAGATGTGGGTGCTGGTGCTTTGCGTCGTAGTGACTCTCCAGAAATTCCTTTCC AGGCTGCTGCCGCCCTTCTGATGGCTTAGATGCCTCCTCTCCAGGAAATAGCTTTGTAGGGCTCCGTGTTGTAG CCAAGTGGTCATCCAATGGCTACTTTTACTCTGGGAAAATCACACGAGATGTCGGAGCTGGGAAGTATAAATTGC TCTTTGATGATGGGTACGAATGTGATGTTTGGGCAAAGACATTCTGTTATGTGACCCCATCCCGCTGGACACTG TGTACTACAGCATTGAAAAAGAAGGCCAAAGAAAGTGGTATAAGCGAATGGCTGTCATCCTGTCCTTGGAGCAAG GAAACAGACTGAGAGAGCAGTATGGGCCTTGGCCCCTATGAAGCAGTAACACCTCTTACAAAGGCAGCAGATATCA GCTTAGACAATTTGGTGGAAGGGAAGCGGAAACGGCGCAGTAACGTCAGCTCCCAGCCACCCCTACTGCCTCCA GTAGCAGCACACCCCTACCCGAAAGATCACAGAAAGTCCTCGTGCCTCCATGGGAGTTCTCTCAGGCAAAA GAAAACTTATCACTTCTGAAGAGGAACGGTCCCCTGCCAAGCGAGGTCGCAAGTCTGCCACAGTAAAACCTGGTG CAGTAGGGGCAGGAGAGTTTGTGAGCCCCTGTGAGAGTGGAGACAACACCGGTGAACCCTCTGCCCTGGAAGAGC AGAGAGGCCTTTGCCTCTAACAAGACCTTGTTTCTGGGCTACGCATTTCTCCTTACCATGGCCACAACCAGTG ACAAGTTGGCCAGCCGCTCCAAACTGCCAGATGGTCCTACAGGAAGCAGTGAAGAAGAGGAGGAATTTTTGGAAA TTCCTCCTTTCAACAAGCAGTATACAGAATCCCAGCTTCGAGCAGGAGCTGGCTATATCCTTGAAGATTTCAATG AAGCCCAGTGTAACACAGCTTACCAGTGTCTTCTAATTGCGGATCAGCATTGTCGAACCCGGAAGTACTTCCTGT GCCTTGCCAGTGGGATTCCTTGTGTGTCTCATGTCTGGGTCCATGATAGTTGCCATGCCAACCAGCTCCAGAACT ACCGTAATTATCTGTTGCCAGCTGGGTACAGCCTTGAGGAGCAAAGAATTCTGGACTGGCAACCCCGTGAAAATC CTTTCCAGAATCTGAAGGTACTCTTGGTATCAGACCAACAGCAGAACTTCCTGGAGCTCTGGTCTGAGATCCTCA TGACTGGTGGTGCAGCCTCTGTGAAGCAGCACCATTCAAGTGCCCATAACAAAGATATTGCTTTAGGGGTATTTG ATGTGGTGGTGACGGACCCCTCATGCCCAGCCTCGGTGCTGAAGTGTGCTGAAGCATTGCAGCTGCCTGTGGTGT CACAAGAGTGGGTGATCCAGTGCCTCATTGTTGGGGAGAGAATTGGATTCAAGCAGCATCCAAAATATAAACACG ATTATGTTTCTCAC<u>TAA</u>AGATACTTGGTCTTACTGGTTTTATTCCCTGCTATCGTGGAGATTGTGTTTTAACCAG GTTTTAAATGTGTCTTGTGTGAACTGGATTCCTTGCATGGATCTTGTATATAGTTTTATTTGCTGAACTTTTAT GATAAAATAAATGTTGAATCTCTTTGGTTGTAGTAACTGGG

MDPTGSOLDSDFSOODTPCLIIEDSOPESOVLEDDSGSHFSMLSRHLPNLOTHKENPVLDVVSNPEOTAGEERGD GNSGFNEHLKENKVADPVDSSNLDTCGSISQVIEQLPQPNRTSSVLGMSVESAPAVEEEKGEELEQKEKEKEEDT SGNTTHSLGAEDTASSQLGFGVLELSQSQDVEENTVPYEVDKEQLQSVTTNSGYTRLSDVDANTAIKHEEQSNED IPIAEQSSKDIPVTAQPSKDVHVVKEQNPPPARSEDMPFSPKASVAAMEAKEQLSAQELMESGLQIQKSPEPEVL STQEDLFDQSNKTVSSDGCSTPSREEGGCSLASTPATTLHLLQLSGQRSLVQDSLSTNSSDLVAPSPDAFRSTPF IVPSSPTEQEGRQDKPMDTSVLSEEGGEPFQKKLQSGEPVELENPPLLPESTVSPQASTPISQSTPVFPPGSLPI PSQPQFSHDIFIPSPSLEEQSNDGKKDGDMHSSSLTVECSKTSEIEPKNSPEDLGLSLTGDSCKLMLSTSEYSQS PKMESLSSHRIDEDGENTQIEDTEPMSPVLNSKFVPAENDSILMNPAQDGEVQLSQNDDKTKGDDTDTRDDISIL ATGCKGREETVAEDVCIDLTCDSGSQAVPSPATRSEALSSVLDQEEAMEIKEHHPEEGSSGSEVEEIPETPCESQ GEELKEENMESVPLHLSLTETQSQGLCLQKEMPKKECSEAMEVETSVISIDSPQKLAILDQELEHKEQEAWEEAT SEDSSVVIVDVKEPSPRVDVSCEPLEGVEKCSDSQSWEDIAPEIEPCAENRLDTKEEKSVEYEGDLKSGTAETEP VEQDSSQPSLPLVRADDPLRLDQELQQPOTOEKTSNSLTEDSKMANAKOLSSDAEAOKLGKPSAHASOSFCESSS ETPFHFTLPKEGD1IPPLTGATPPLIGHLKLEPKRHSTPIGISNYPESTIATSDVMSESMVETHDP1LGSGKGDS GAAPDVDDKLCLRMKLVSPETEASEESLQFNLEKPATGERKNGSTAVAESVASPOKTMSVLSCICEARQENEARS EDPPTTPIRGNLHFPSSQGEEEKEKLEGDHTIRQSQQPMKPISPVKDPVSPASQKMVIQGPSSPQGEAMVTDVL EDQKEGRSTNKENPSKALIERPSQNNIGIQTMECSLRVPETVSAATQTIKNVCEQGTSTVDQNFGKQDATVQTER GSGEKPVSAPGDDTESLHSQGEEEFDMPQPPHGHVLHRHMRTIREVRTLVTRVITDVYYVDGTEVERKVTEETEE PIVECQECETEVSPSQTGGSSGDLGDISSFSSKASSLHRTSSGTSLSAMHSSGSSGKGAGPLRGKTSGTEPADFA LPSSRGGPGKLSPRKGVSQTGTPVCEEDGDAGLGIRQGGKAPVTPRGRGRRGRPPSRTTGTRETAVPGPLGIEDI SPNLSPDDKSFSRVVPRVPDSTRRTDVGAGALRRSDSPEIPFQAAAGPSDGLDASSPGNSFVGLRVVAKWSSNGY FYSGKITRDVGAGKYKLLFDDGYECDVLGKDILLCDPIPLDTEVTALSEDEYFSAGVVKGHRKESGELYYSIEKE GQRKWYKRMAVILSLEQGNRLREQYGLGPYEAVTPLTKAADISLDNLVEGKRKRRSNVSSPATPTASSSSSSTTPT RKITESPRASMGVLSGKRKLITSEEERSPAKRGRKSATVKPGAVGAGEFVSPCESGDNTGEPSALEEQRGPLPLN KTLFLGYAFLLTMATTSDKLASRSKLPDGPTGSSEEEEEFLEIPPFNKOYTESOLRAGAGYILEDFNEAQCNTAY QCLLIADQHCRTRKYFLCLASGIPCVSHVWVHDSCHANQLQNYRNYLLPAGYSLEEQRILDWQPRENPFQNLKVL LVSDQQQNFLELWSEILMTGGAASVKQHHSSAHNKDIALGVFDVVVTDPSCPASVLKCAEALQLPVVSQEWVIQC LIVGERIGFKOHPKYKHDYVSH

CCGGCTCCCATTCCGGCTCCAGCCTCCAATCCGACCCCCATTTCGGCTGCAGCCTCGGACCTAGCTCCGGCCCTC GGTCTATCCGGTTGCATCCTCCCTGTTCCGGATCTTATCTTGCGCCAGCGCCTACTCCAGGATCCCGTAGC CAGACCTCAAGCCATGCCTGCTCTCCCCGTCTGCTGTCCGCCCGGGGACTCAGGCTCCTGGCTTTGGC CGGAGCGGGGTCTCTAGCCGCTGGGTTTCTGCTCCGACCGGAACCTGTACGAGCTGCAGTGAACGACGGAGGCT GTATCCCCCGAGCGCTGAGTACCCAGACCTCCGAAAGCACAACACTGCATGGCCAGTCACCTGACCCCAGCAGT CTATGCACGGCTCTGCGACAAGACCACACCCACTGGTTGGACGCTAGATCAGTGTATCCAGACTGGCGTGGACAA CCCTGGCCACCCTTCATCAAGACTGTGGGCATGGTGGCTGGAGATGAGGAGACCTATGAGGTATTTGCTGACCT GTTTGACCCTGTGATCCAAGAGCGACACAATGGATATGACCCCCGGACAATGAAGCACCACGGATCTAGATGC CAGTAAAATCCGTTCTGGCTACTTTGATGAGGGGTATGTTTTTTCTCTCTAGAGTCAGAACTGGCCGAAGCATCCG AGGACTCAGTCTGCCTCCAGCTTGCACTCGAGCAGAGCGAGAGGTGGAACGTGTTGTGGTGGATGCACTGAG TGGCCTGAAGGGTGACCTGGCCGGACGTTACTATAGGCTCAGTGAGATGACAGAGGCTGAACAGCAGCAGCTTAT TGATGACCACTTTCTGTTTGATAAGCCTGTGTCCCCGTTGCTGACTGCAGCAGGAATGGCTCGAGACTGGCCAGA TGCTCGTGGAATTTGGCACAACAATGAGAAGAGCTTCCTGATCTGGGTGAATGAGGAGGATCATACACGGGTGAT CTCCATGGAGAGGGTGGTAACATGAAGAGGGTGTTTGAAAGATTCTGCCGAGGCCTCAAAGAGGTGGAGAGACT TATCCAAGAACGTGGCTGGGAGTTCATGTGGAATGAGCGTTTGGGATACATCTTGACCTGTCCATCTAACCTGGG CACTGGACTTCGGGCAGGAGTGCACATCAAACTGCCCCTGCTAAGCAAAGATAGCCGCTTCCCAAAGATCCTGGA GAACCTAAGACTCCAAAAACGTGGTACTGGAGGAGTGGACACTGCTGCTACAGGCGGTGTCTTTGATATTTCTAA TTTGGACCGACTAGGCAAATCAGAGGTGGAGCTGGTGCAACTGGTCATCGATGGAGTAAACTATTTGATTG  $\tt TGAACGGCGTCTGGAGAGAGGCCAGGATATCCGCATCCCCACACCTGTCATCCACACCAAGCAT \underline{{\tt TAAC}} \tt CTCCCCAT$ CGCCAGCTGATGACTCAAGATTCCCAGGAGTTTTGCTCATTCTAATGATGGCCCATTCTACTTGCTCTGGACCTG CCCCGCATCCCTGCCTCCATCCTAGT

MAGPFSRLLSARPGLRLLALAGAGSLAAGFLLRPEPVRAASERRRLYPPSAEYPDLRKHNNCMASHLTPAVYARL CDKTTPTGWTLDQCIQTGVDNPGHPFIKTVGMVAGDEETYEVFADLFDPVIQERHNGYDPRTMKHTTDLDASKIR SGYFDERYVLSSRVRTGRSIRGLSLPPACTRAERREVERVVVDALSGLKGDLAGRYYRLSEMTEAEQQQLIDDHF LFDKPVSPLLTAAGMARDWPDARGIWHNNEKSFLIWVNEEDHTRVISMEKGGNMKRVFERFCRGLKEVERLIQER GWEFMWNERLGYILTCPSNLGTGLRAGVHIKLPLLSKDSRFPKILENLRLQKRGTGGVDTAATGGVFDISNLDRL GKSEVELVQLVIDGVNYLIDCERRLERGQDIRIPTPVIHTKH

CAAGCAGCGGGTTAGTGGTCGCGCCCGACCTCCGCAGTCCCAGCCGAGCCGCGACCCTTCCGGCCGTCCCCAC TCGCCGCTGCCTCCGACGTGCTAGAACTCACGGACGACAACTTCGAGAGTCGCATCTCCGACACGGGCTCTGCGG GCCTCATGCTCGTCGAGTTCTTCGCCCCCTGGTGTGGACACTGCAAGAGACTTGCACCTGAGTATGAAGCTGCAG GAGTCAGTGGATATCCAACCCTGAAGATATTTAGAGATGGTGAAGAAGCAGGTGCTTATGATGGACCTAGGACTG CTGATGGAATTGTCAGCCACTTGAAGAAGCAGGCAGGACCAGCTTCAGTGCCTCTCAGGACTGAGGAAGAATTTA TCCTAAAAGCAGCCAGCAACTTGAGGGATAACTACCGATTTGCACATACGAATGTTGAGTCTCTGGTGAACGAGT ATGATGATAATGGAGAGGGTATCATCTTATTTCGTCCTTCACATCTCACTAACAAGTTTGAGGACAAGACTGTGG CATATACAGAGCAAAAAATGACCAGTGGCAAAATTAAAAAGTTTATCCAGGAAAACATTTTTGGTATCTGCCCTC AGAACGCTAAAGGTTCCAACTACTGGAGAAACAGGGTAATGATGGTGGCAAAGAAATTCCTGGATGCTGGGCACA AACTCAACTTTGCTGTAGCTAGCCGCAAAACCTTTAGCCATGAACTTTCTGATTTTTGGCTTGGAGAGCACTGCTG GAGAGATTCCTGTTGTTGCTATCAGAACTGCTAAAGGAGAAGTTTGTCATGCAGGAGGAGTTCTCGCGTGATG GGAAGGCTCTGGAGAGGTTCCTGCAGGATTACTTTGATGGCAATCTGAAGAGATACCTGAAGTCTGAACCTATCC CAGAGAGCAATGATGGGCCTGTGAAGGTAGTGGTAGCAGAGAATTTTGATGAAATAGTGAATAATGAAAATAAAG ATGTGCTGATTGAATTTTATGCCCCTTGGTGTGGTCACTGTAAGAACCTGGAGCCCAAGTATAAAGAACTTGGCG AAGTCAGAGGTTTTCCTACCATATACTTCTCCCAGCCAACAAGAAGCTAAATCCAAAGAAATATGAAGGTGGCC GTGAATTAAGTGATTTTATTAGCTATCTACAAAGAGAAGCTACAAACCCCCCTGTAATTCAAGAAGAAAAACCCA AGAAGAAGAAGAAGACCCCACTTCCATCAG AGATGGGAAAACCATTGGGGAGGACTAGGACCCATATGGGAATTATTACCTCTCAGGGCCGAGAGGACAGAATGG ATATAATCTGAATCCTGTTAAATTTTCTCTAAACTGTTTCTTAGCTGCACTGTTTATGGAAATACCAGGACCAGT 

MRLRRLALFPGVALLLAAARLAAASDVLELTDDNFESRISDTGSAGLMLVEFFAPWCGHCKRLAPEYEAAATRLK GIVPLAKVDCTANTNTCNKYGVSGYPTLKIFRDGEEAGAYDGPRTADGIVSHLKKQAGPASVPLRTEEEFKKFIS DKDASIVGFFDDSFSEAHSEFLKAASNLRDNYRFAHTNVESLVNEYDDNGEGIILFRPSHLTNKFEDKTVAYTEQ KMTSGKIKKFIQENIFGICPHMTEDNKDLIQGKDLLIAYYDVDYEKNAKGSNYWRNRVMMVAKKFLDAGHKLNFA VASRKTFSHELSDFGLESTAGEIPVVAIRTAKGEKFVMQEEFSRDGKALERFLQDYFDGNLKRYLKSEPIPESND GPVKVVVAENFDEIVNNENKDVLIEFYAPWCGHCKNLEPKYKELGEKLSKDPNIVIAKMDATANDVPSPYEVRGF PTIYFSPANKKLNPKKYEGGRELSDFISYLOREATNPPVIOEEKPKKKKKAOEDL

# FIGURE 4176

GGCACGAGGCGGCCAACCGCCCGGACCTCGGCGCTTTCTTCTAGGATCCGCATGAATCGCTTTGGGCTATCGGA CTTAGTTTCCCCAGCGACCCTGAATTTGGAGTTGCTGTCTCTAAGTGAAAGCTGAACCTGCAACCCCTTGAGGGT TTCAGCCGCAGAGGGGCGGAGAAAGGGCCTGGTTGGTAGGCGGGCTCAGCGGTTCGCGCCCAGTTAGCCCCGAG CTTCGGAGACCCGAGAGACCAGAGGATGGCTGACACGAAGGGGCCACCCGAGACAGCGCCTGGGCTTTTTCCCGCC CGCGGTTCCACCGCTCTGAAACCGATTTCTAACAGAGAGACATAGTCTTGCTCTGTTACCCATGCTGGAGTAC GGTGGCGAGATCACGACTCACTACAACTTTGAATTCCTGGATTCAAGCAATCCTCCCATCTCAGCCTCCTGAGTA GCTAAGGACTACAGGGCGACTTTGTCAGTACCCCAAACTGTCCCCGCATGAGGTCACTCTGCACGGTCACGTGCT CGAGCCCGCGGAGCGCCACATCGCCAGCCGCACCCTCCACCCTGCCCACGTGACCCGGCCTAGTTTC TCCAGGCCCGTCCCTACGTCTCACTCGGGAAGCCCCGCCCCACGCTGAGCGCTCCGCCTGCGACCCTCCGCCACT GAAGGGCCGGGGAGGAAAGGAACGACTGTGCTACGTTGCCAGAAGGGGCGGGACCTGCAACGTCCGACAGAACGA GCAGAGGGACTCGGAGATCATGCAGCAGAAGCAGAAAAAGGCAAACGAGAAGAAGGAGGAACCCAAGTAGCTTTG TGGCTTCGTGTCCAACCCTCTTGCCCTTCGCCTGTGTGCCTGGAGCCAGTCCCACCACGCTCGCGTTTCCTCCTG TAGTGCTCACAGGTCCCAGCACCGATGGCATTCCCTTTGCCCTGAGTCTGCAGCGGGTCCCTTTTGTGCTTCCTT  $\tt CCCCTCAGGTAGCCTCTCCCCCTGGGCCACTCCCGGGGGTGAGGGGGTTACCCCTTCCCAGTGTTTTTTATTC$ 

MTGFLLPPASRGTRRSCSRSRKRQTRRRRNPSSFVASCPTLLPFACVPGASPTTLAFPPVVLTGPSTDGIPFALS LQRVPFVLPSPQVASLPLGHSRG

 ${\tt MSRSVALAVLALLSLSGLEAIQRTPKIQVYSRHPAENGKSNFLNCYVSGFHPSDIEVDLLKNGERIEKVEHSDLS} \\ {\tt FSKDWSFYLLYYTEFTPTEKDEYACRVNHVTLSQPKIVKWDRDM}$ 

WO 2004/030615 PCT/US2003/028547

## 4536/6881 FIGURE 4181

 $\tt CGCACGGCCGCAGATCTGTCTTGCTGGAAGCTTTTTCCTAGAGGTTGAGCGGTTTGCACA\underline{ATG}\texttt{TCGGAAATGG}$ AAGGCCCAATGGAGGAGGAGGAGGCCCAGCCAATGGCGGCGCCAGAGGGGAAACGGAGCCTTGCTAACGGGCCCA ACGCTGGGGAGCAGCCAGGCGGGCGGGGCGCAGACTTCGAGAGCGAGGACGAGGGCGAGGAATTTGATGACT GGGAGGACGACTACGACTATCCCGAAGAGGAGCAGCTCAGTGGTGCCGGCTACAGAGTATCAGCCGCTCTTGAAG AAGCCGACAAGATGTTTCTGAGAACAAGAGAACCAGCCCTGGATGGCGGGTTTCAGATGCATTATGAGAAGACCC  ${\tt CGTTTGATCAGTTAGCTTTTATCGAAGAGCTTTTTTCACTGATGGTTGTCAATCGTCTGACCGAAGAACTCGGCT}$ GTGATGAGATTATTGATAGAGAGTAGTTAGATGCTGTTAAAAGAGGAGGAAACTACTTGAGGAGGGACCCAACTT TCCGCTATCTTTGGGTTCATTCCAAATAGTTTTGTGCCATTGAAAAAACTTGACCTTCAAAAAAATTTGTTTTTC TTTTAAGACCGTTGAAATCAATTATCAAGAACGTCCTAAAACACCTATGGCTTTGACTTTGTTATTGATCCAGAT CCAAGACAAACTGCCAATACAAAAGCCCACTGATACTAATTATATATGAGAAAAAAATGTATCCAACTAGGACA CATATCTTTTGAGTTATTTGGACTGAAAGCTTAAGAAAACTTGGAAAATTCTATTTTGTGATCTAGTCAAGCCAC AGTTATCAAAGGCTACATTTTCAGTGTAAGATAAATGGATGAGTAAACTCAAATATGTATCACGTGTGCTTTGTA ATTTTGTTTTGCTTGCTGTTTTAACTTGACAGATGAAGGACTTTAGTTGAACTTCATATTGTAAGAACTGTTAAT AAAAGTTGTCAAGTAAAAAGCGCTATATCTAAAAAGACTTTATGAACAGTTATTCTATCAACTTTTAAAGGTTTT AAACCTGCCCAGAAATTACCTTGGTATCTGAAGTTTCCCTCTGTCTCCTCTCTAATTAAGCTTGTTATTTGTCA 

 ${\tt MSEMAELSELYEESSDLQMDVMPGEGDLPQMEVGSGSRELSLRPSRSGAQQLEEEGPMEEEEAQPMAAPEGKRSLANGPNAGEQPGQVAGADFESEDEGEEFDDWEDDYDYPEEEQLSGAGYRVSAALEEADKMFLRTREPALDGGFQMHYEKTPFDQLAFIEELFSLMVVNRLTEELGCDEIIDRE$ 

### 4539/6881 FIGURE 4184A

GCTGGAGATCGCCCTGGGATTTACCGTGCTTTTAGCGTCCTACACGAGCCATGGGGCGGACGCCAATTTGGAGGC TGGGAACGTGAAGGAAACCAGAGCCAGTCGGGCCAAGAGAAGAGGCGGTGGAGGACACGACGCGCTTAAAGGACC TGTCCCCATTTGCCGGCATTCCTGTGGGGATGGATTTTGTTCGAGGCCAAATATGTGCACTTGCCCATCTGGTCA GATAGCTCCTTCCTGTGGCTCCAGATCCATACAACACTGCAATATTCGCTGTATGAATGGAGGTAGCTGCAGTGA CGATCACTGTCTATGCCAGAAAGGATACATAGGGACTCACTGTGGACAACCTGTTTGTGAAAGTGGCTGTCTCAA TGGAGGAAGGTGTGTGGCCCCAAATCGATGTGCATGCACTTACGGATTTACTGGACCCCAGTGTGAAAGAGATTA CAGGACAGGCCCATGTTTTACTGTGATCAGCAACCAGATGTGCCCAGGGACAACTCAGCGGGATTGTCTGCACAAA AACGCTCTGCTGTGCCACAGTCGGCCGAGCCTGGGGCCACCCCTGTGAGATGTGTCCTGCCCAGCCTCACCCCTG CCGCCGTGGCTTCATTCCAAATATCCGCACGGGAGCTTGTCAAGATGTGGATGAATGCCAGGCCATCCCCGGGCT CTGTCAGGGAGGAAATTGCATTAATACTGTTGGGTCTTTTGAGTGCAAATGCCCTGCTGGACACAAACTTAATGA AGTGTCACAAAAATGTGAAGATATTGATGAATGCAGCACCATTCCTGGAATCTGTGAAGGGGGTGAATGTACAAA CACAGTCAGCAGTTACTTTTGCAAATGTCCCCCTGGTTTTTACACCTCTCCAGATGGTACCAGATGCATAGATGT TCGCCCAGGATACTGTTACACAGCTCTGACAAACGGGCGCTGCTCTAACCAGCTGCCACAGTCCATAACCAAAAT GCAGTGCTGCTGATGCCGGCCGATGCTGGTCTCCAGGGGTCACTGTCGCCCCTGAGATGTGTCCCATCAGAGC AACCGAGGATTTCAACAAGCTGTGCTCTGTTCCTATGGTAATTCCTGGGAGACCAGAATATCCTCCCCCACCCCT TGGCCCCATTCCTCCAGTTCTCCTGTTCCTCCTGGCTTTCCTCCTGGACCTCAAATTCCGGTCCCTCGACCACC AGTGGAATATCTGTATCCATCTCGGGAGCCACCAAGGGTGCTGCCAGTAAACGTTACTGATTACTGCCAGTTGGT CCGCTATCTCTGTCAAAATGGACGCTGCATTCCAACTCCTGGGAGTTGCCGGTGTGAGTGCAACAAAGGGTTCCA GCTGGACCTCCGTGGGGAGTGTATTGATGTTGATGATGTAGAAAAACCCCTGTGCTGGTGGTGAGTGTATTAA CAACCAGGGTTCGTACACCTGTCAGTGCCGAGCTGGATATCAGAGCACACTCACGCGGACAGAATGCCGAGACAT TGATGAGTGTTTACAGAATGGCCGGATCTGCAATAATGGACGCTGCATCAACACAGATGGCAGTTTTCATTGCGT GTGTAATGCGGGCTTTCATGTTACACGAGATGGGAAGAACTGTGAAGATATGGATGAATGCAGCATAAGGAACAT GTGCCTTAATGGAATGTGTATCAATGAAGATGGCAGTTTTAAATGTATTTGCAAACCTGGATTCCAGCTGGCATC AGATGGACGTTATTGCAAAGACATTAACGAGTGTGAAACCCCTGGGATCTGCATGAATGGGCGTTGCGTCAACAC TGAATGCTGTTGCGCCAGCACTGAGTATGCATTTGGGGAACCTTGCCAGCCGTGTCCTGCACAGAATTCAGCGGA TGATATTTGCCCAAATGGAATCTGTGAAAACCTTCGTGGGACCTATAAATGTATATGCAATTCAGGATATGAAGT GGATTCAACTGGGAAAAACTGCGTTGATATTAATGAATGTGTACTGAACAGTCTCCTTTGTGACAATGGACAATG TAGAAATACTCCTGGAAGTTTTGTCTGTACCTGCCCCAAGGGATTTATCTACAAACCTGATCTAAAAACATGTGA AGACATTGATGAATGCGAATCAAGTCCTTGCATTAATGGAGTCTGCAAGAACAGCCCAGGCTCTTTTATTTGTGA ATGTTCTTCTGAAAGTACTTTGGATCCAACAAAAACCATCTGCATAGAAACCATCAAGGGCACTTGCTGGCAGAC TGCGTGGGGAAGCCCGTGCACCCTATGCCAAGTTGATCCCATATGTGGTAAAGGGTACTCAAGAATTAAAGGAAC ACAATGTGAAGATATAGATGAATGTGAAGTGTTCCCAGGAGTGTGTAAAAATGGCCTGTGTGTTAACACTAGGGG AACCTGCTTCCTGAGGTACGAGGACGAGGAGTGCACCCTGCCTATTGCTGGCCGCCACCGCATGGACGCCTGCTG CTGCTCCGTCGGGGCAGCCTGGGGTACTGAGGAATGCGAGGAGTGTCCCATGAGAAATACTCCTGAGTACGAGGA GCTGTGTCCGAGAGGACCCGGATTTGCCACAAAAGAAATTACAAATGGAAAGCCTTTCTTCAAAGATATCAATGA GTGCAAGATGATACCCAGCCTCTGCACCCACGGCAAGTGCAGAAACACCATTGGCAGCTTTAAGTGCAGGTGTGA CAGCGGCTTTGCTCTTGATTCTGAAGAAAGGAACTGCACAGACATTGACGAATGCCGCATATCTCCTGACCTCTG TGGCAGAGGCCAGTGTGTGAACACCCCTGGGGACTTTGAATGCAAGTGTGACGAAGGCTATGAAAGTGGATTCAT GATGATGAAGAACTGCATGGATATTGATGAGTGTCAGAGAGATCCTCTCCTATGCCGAGGTGGTGTTTGCCATAA CACAGAGGGAAGTTACCGCTGTGAATGCCCGCCTGGCCATCAGCTGTCCCCCAACATCTCCGCGTGTATCGACAT

### 4540/6881 FIGURE 4184B

CAATGAATGTGAGCTGAGTGCACCTGTGCCCCAATGGCCGTTGCGTGAACCTCATAGGGAAGTATCAGTGTGC TGGTTGTGAAACCTTCTGCACAAACTCTGAAGGCAGCTATGAATGTAGCTGTCAGCCGGGATTTGCACTAATGCC TGACCAGAGATCATGCACCGACATCGATGAGTGTGAAGATAATCCCAATATCTGTGATGGTGGTCAGTGCACAAA TATCCCTGGAGAGTACAGGTGCTTGTGTTATGATGGATTCATGGCATCTGAAGACATGAAGACTTGTGTAGATGT CAATGAGTGTGACCTGAATCCAAATATCTGCCTAAGTGGGACCTGTGAAAACACGAAAGGCTCATTTATCTGCCA CAACTGTGGCAAACATGCTGTATGTACCAATACAGCAGGAAGCTTCAAATGTAGCTGCAGTCCCGGGTGGATTGG TGAGTGCTCTGAGAACCTGAATCTCTGTGGCAATGGCCAGTGCCTCAATGCACCAGGAGGATACCGCTGTGAATG  $\tt CGACATGGGCTTCGTGCCCAGTGCTGACGGGAAAGCCTGTGAAGATATTGATGAGTGCTCCCTTCCGAACATCTG$ TGTCTTTGGAACTTGCCACAACCTCCCTGGCCTGTTCCGCTGTGAGTGTGAGATAGGCTACGAACTGGACAGAAG AGGCAGCTATATCTGTGACTGCCCACCTGATTTTGAACTGAACCCAACTCGAGTTGGCTGTTGATACCCGCTC TGGANATTGCTATTTGGATATTCGACCTCGAGGAGACAATGGAGATACAGCCTGCAGCAATGAAATTGGAGTTGG TGTTTCCAAAGCTTCCTGCTGCTGTTCTCTGGGTAAAGCCTGGGGTACTCCTTGTGAGATGTGTCCTGCTGTGAA CACATCCGAGTACAAAATTCTTTGTCCTGGAGGGGAAGGTTTCCGACCAAATCCTATCACCGTTATATTGGAAGA TATTGATGAGTGCCAGGAGCTACCAGGGCTGTGCCAAGGAGGAAAATGTATCAACACCTTTGGGAGTTTCCAGTG AATCTGTGGTCCAGGGACATGTTACAACACCGTTGGCAACTACACCTGTATCTGTCCTCCAGACTACATGCAAGT GAATGGGGGAAATAATTGCATGGATATGAGAAGAAGTTTGTGCTACAGAAACTACTATGCTGACAACCAGACCTG TGATGGAGAATTGTTATTCAACATGACCAAGAAGATGTGCTGCTGCTCCTACAACATTGGCCGGGCGTGGAACAA GCCCTGTGAACAGTGTCCCATCCCAAGTACAGATGAGTTTGCTACACTCTGTGGAAGTCAAAGGCCAGGCTTTGT CATCGACATTTATACCGGTTTACCCGTTGATATTGATGAGTGCCGGGAGATCCCAGGGGTCTGTGAAAATGGAGT GTGTATCAACATGGTTGGCAGCTTCCGATGTGAATGTCCAGTGGGATTCTTCTATAATGACAAGTTGTTGGTTTG GAACACAATTGGTTCCTTCAACTGCCGCTGCAATCATGGTTTCATCCTTTCTCACAACAATGACTGTATAGATGT TGATGAATGTGCAAGTGGAAATGGGAATCTTTGCAGAAATGGCCAATGCATTAATACAGTGGGGTCTTTCCAGTG CAGAAAATGTGCACCAGGTACCTGTCAAAACTTGGATGGGTCCTACAGATGCATTTGCCCACCTGGATACAGTCT TCAAAATGAGAAGTGTGAAGATATTGATGAGTGTGTCGAAGAGCCAGAAATTTGTGCCCTGGGCACATGCAGTAA CACTGAAGGCAGCTTCAAATGTCTGTGTCCAGAAGGGTTTTCCTTGTCCTCCAGTGGAAGAAGGTGCCAAGATTT GCGAATGAGCTACTGTTATGCGAAGTTTGAAGGAGGAAAGTGTTCATCACCCAAATCCAGAAATCACTCCAAGCA GGAATGCTGCTGTGCCTTGAAGGGAGAAGGCTGGGGAGACCCCTGCGAGCTCTGCCCCACGGAACCTGATGAGGC CTTCCGCCAGATATGTCCTTATGGAAGTGGGATCATCGTGGGACCTGATGATTCAGCAGTTGATATGGACGAATG CAAAGAACCCGATGTCTGTAAACATGGACAGTGCATCAATACAGATGGTTCCTATCGCTGCGAGTGTCCCTTTGG TTATATTCTAGCAGGGAATGAATGTGTAGATACTGATGAATGTTCTGTTGGCAATCCTTGTGGAAATGGAACCTG CAAGAATGTGATTGGAGGTTTTGAATGCACCTGCGAGGAGGGATTTGAGCCCGGTCCAATGATGACATGTGAAGA TATAAATGAATGTGCCCAGAATCCTCTGCTCTGTGCCTTCCGATGTGTGAACACTTATGGGTCATATGAATGCAA ATGTCCCGTGGGATATGTGCTCAGAGAAGACCGTAGGATGTGCAAAGATGAGGATGAGTGTGAAGAGGGAAAACA TGACTGTACTGAAAAACAAATGGAATGCAAGAACCTCATTGGCACATATATGTGCATCTGTGGACCCGGGTATCA CTGCCTCAACACCCGTGGGAGCTACACCTGTGAGTGTAATGATGGGTTTACCGCCAGCCCCAACCAGGACGAGTG CCTTGACAATCGGGAAGGGTACTGCTTCACAGAGGTGCTACAAAACATGTGTCAGATCGGCTCCAGCAACAGGAA

### 4541/6881 FIGURE 4184C

CCCCGTCACCAAATCGGAATGCTGCTGTGACGGAGGGAGAGGCTGGGGTCCCCACTGTGAGATCTGCCCTTTCCA GGGGACTGTGGCTTTCAAGAAACTCTGTCCCCATGGCCGAGGATTCATGACCAATGGAGCAGATATCGATGAATG CAAGGTTATTCACGATGTTTGCCGAAATGGGGAATGTGTCAATGACAGAGGATCATATCATTGCATTTGTAAAAC TGGGTACACTCCAGATATAACTGGGACTTCCTGTGTAGATCTGAACGAGTGCAACCAGGCTCCCAAACCCTGCAA TTTTATCTGCAAAAACACAGAAGGGAGTTACCAGTGTTCATGCCCGAAAGGCTACATTCTGCAAGAGGATGGAAG GAGCTGCAAAGATCTTGATGAGGTGTGCAACCAAGCAACACACTGCCAGTTCCTATGTGTTAACACCATTGGCGG CATCAATCTGTGCGGGTCTAAGGGCATTTGCCAGAACACTCCTGGAAGCTTCACCTGTGAATGCCAGCGGGGATT CTCACTTGATCAGACCGCTCCAGCTGTGAAGACGTGGACGAGTGTGAGGGTAACCACCGCTGCCAGCATGGCTG CCAGAACATCATTGGGGGCTACAGGTGCAGCTGCCCCCAGGGCTACCTCCAGCACTACCAGTGGAACCAGTGTGT TGATGAAAACGAATGCCTCAGCGCTCACATCTGCGGAGGAGCCTCCTGTCACAACACCCTGGGGAGCTACAAGTG GGCCCCTGCAGCTATGGCTGTTCCAATACCGAGGGCGGTTACCTGTGTGGCTGTCCACCTGGTTACTTCCGCAT AGGCCAAGGGCACTGTTTTCTGGAATGGGCATGGGCCGAGGAAACCCAGAGCCACCTGTCAGTGGTGAAATGGA TGACAATTCACTCTCCCCAGAGGCTTGTTACGAGTGTAAGATCAATGGCTACCCCAAACGGGGCAGGAAACGGAG AAGCACAAACGAAACTGATGCCTCCAATATCGAGGATCAGTCTGAGACAGAAGCCAATGTGAGTCTTGCAAGTTG GGATGTTGAGAAGACAGCCATCTTTGCTTTCAATATTTCCCACGTCAGTAACAAGGTTCGAATCCTAGAACTCCT TCCAGCTCTTACAACTCTGACGAATCACAACAGATACTTGATCGAATCTGGAAATGAAGATGGCTTCTTTAAAAT CAACCAAAAGGAAGGGATCAGCTACCTCCACTTCACAAAGAAGAAGCCAGTGGCTGGAACCTATTCATTACAAAT CAGTAGTACTCCACTTTATAAAAAGAAAGAACTTAACCAACTAGAAGACAAATATGACAAAGACTACCTCAGTGG TGAACTGGGTGATAATCTGAAGATGAAAATCCAGGTTTTGCTTCAT<u>TAA</u>TTCACCATCCAGAGACCAAATAATTA AAAGAAAACAAATATAGATAGGTAGAACTATATTTTCCCCCAATCAGAATCATATCATAGGTACAATCTTT CACCAAGTAAATTTGTATAAATAAGCACTATTCTTTGTATTACCAAAGCAAGGTACAGGTGACTACCCTAGTTCA AAACAACCACTTTCTCAGGCTTCTCATGTGTGTAGCTAAGCTACCTTGTCATATGTGTTGATTCTTGAAAACTGG GACGTGTATTTCCATTGGGGGTTGGCCATTTATGCTGACATGCCATCCTTCCAGCAAACGTACGGGAATGTGCTT TCAATTGATGGACTACTCTATTTTTTGCAAATTTGTAAACTTTGCTTCTCCAAATACAAGTACTAGGTTGTCCAT TTATGGTACCTATTTGGTGCTAGTAAATTTTCAAACTAGATTTATAAATGCACTGTAATATGTACACAACTTAGA TTTATAAACTAGAATAATAATGCCCTTAATGTGAGGGTTTGTAATGGTGCTTATTAAGACCAAAGACTTGTTAAA TGTATACACCAAGTGGTAATGAAATTTCGGTGACTGGCCCACACGTGCATAGAGGTCTGGGAGGACCAGGAAACA GCCTCAGTGGCCAGAGGATCACCAGTGCATCCTTCATCACAGCATGTGCAAATATGCCAAGATTACCCTCGGTCAT 

MRRGRLLEIALGFTVLLASYTSHGADANLEAGNVKETRASRAKRRGGGGHDALKGPNVCGSRYNAYCCPGWKTLP  ${\tt GGNQCIVPICRHSCGDGFCSRPNMCTCPSGQIAPSCGSRSIQHCNIRCMNGGSCSDDHCLCQKGYIGT\color=colo$ ESGCLNGGRCVAPNRCACTYGFTGPOCERDYRTGPCFTVISNOMCOGOLSGIVCTKTLCCATVGRAWGHPCEMCP AQPHPCRRGF1PN1RTGACQDVDECQA1PGLCQGGNC1NTVGSFECKCPAGHKLNEVSQKCED1DECST1PG1CE GGECTNTVSSYFCKCPPGFYTSPDGTRCIDVRPGYCYTALTNGRCSNQLPQSITKMQCCCDAGRCWSPGVTVAPE MCPIRATEDFNKLCSVPMVIPGRPEYPPPPLGPIPPVLPVPPGFPPGPQIPVPRPPVEYLYPSREPPRVLPVNVT DYCQLVRYLCQNGRCIPTPGSCRCECNKGFQLDLRGECIDVDECEKNPCAGGECINNQGSYTCQCRAGYQSTLTR TECRDIDECLQNGRICNNGRCINTDGSFHCVCNAGFHVTRDGKNCEDMDECSIRNMCLNGMCINEDGSFKCICKP GFOLASDGRYCKDINECETPGICMNGRCVNTDGSYRCECFPGLAVGLDGRVCVDTHMRSTCYGGYKRGQCIKPLF GAVTKSECCCASTEYAFGEPCQPCPAQNSAEYQALCSSGPGMTSAGSDINECALDPDICPNGICENLRGTYKCIC NSGYEVDSTGKNCVDINECVLNSLLCDNGQCRNTPGSFVCTCPKGFIYKPDLKTCEDIDECESSPCINGVCKNSP GSFICECSSESTLDPTKTICIETIKGTCWQTVIDGRCEININGATLKSQCCSSLGAAWGSPCTLCQVDPICGKGY SRIKGTQCEDIDECEVFPGVCKNGLCVNTRGSFKCQCPSGMTLDATGRICLDIRLETCFLRYEDEECTLPIAGRH RMDACCCSVGAAWGTEECEECPMRNTPEYEELCPRGPGFATKEITNGKPFFKDINECKMIPSLCTHGKCRNTIGS GGVCHNTEGSYRCECPPGHOLSPNISACIDINECELSAHLCPNGRCVNLIGKYQCACNPGYHSTPDRLFCVDIDE  ${\tt CSIMNGGCETFCTNSEGSYECSCQPGFALMPDQRSCTDIDECEDNPNICDGGQCTNIPGEYRCLCYDGFMASEDM}$ KTCVDVNECDLNPNICLSGTCENTKGSFICHCDMGYSGKKGKTGCTDINECEIGAHNCGKHAVCTNTAGSFKCSC SPGWIGDGIKCTDLDECSNGTHMCSOHADCKNTMGSYRCLCKEGYTGDGFTCTDLDECSENLNLCGNGQCLNAPG GYRCECDMGFVPSADGKACEDIDECSLPNICVFGTCHNLPGLFRCECEIGYELDRSGGNCTDVNECLDPTTCISG NCVNTPGSYICDCPPDFELNPTRVGCVDTRSGNCYLDIRPRGDNGDTACSNEIGVGVSKASCCCSLGKAWGTPCE MCPAVNTSEYKILCPGGEGFRPNPITVILEDIDECQELPGLCQGGKCINTFGSFQCRCPTGYYLNEDTRVCDDVN ECETPGICGPGTCYNTVGNYTCICPPDYMQVNGGNNCMDMRRSLCYRNYYADNQTCDGELLFNMTKKMCCCSYNI GRAWNKPCEQCPIPSTDEFATLCGSQRPGFVIDIYTGLPVDIDECREIPGVCENGVCINMVGSFRCECPVGFFYN DKLLVCEDIDECONGPVCORNAECINTAGSYRCDCKPGYRFTSTGQCNDRNECQEIPNICSHGQCIDTVGSFYCL CHTGFKTNDDOTMCLDINECERDACGNGTCRNTIGSFNCRCNHGFILSHNNDCIDVDECASGNGNLCRNGQCINT VGSFOCOCNEGYEVAPDGRTCVDINECLLEPRKCAPGTCQNLDGSYRCICPPGYSLQNEKCEDIDECVEEPEICA LGTCSNTEGSFKCLCPEGFSLSSSGRRCQDLRMSYCYAKFEGGKCSSPKSRNHSKQECCCALKGEGWGDPCELCP TEPDEAFRQICPYGSGIIVGPDDSAVDMDECKEPDVCKHGQCINTDGSYRCECPFGYILAGNECVDTDECSVGNP CGNGTCKNVIGGFECTCEEGFEPGPMMTCEDINECAQNPLLCAFRCVNTYGSYECKCPVGYVLREDRRMCKDEDE CEEGKHDCTEKQMECKNLIGTYMCICGPGYQRRPDGEGCVDENECQTKPGICENGRCLNTRGSYTCECNDGFTAS PNODECLDNREGYCFTEVLONMCQIGSSNRNPVTKSECCCDGGRGWGPHCEICPFQGTVAFKKLCPHGRGFMTNG ADIDECKVIHDVCRNGECVNDRGSYHCICKTGYTPDITGTSCVDLNECNQAPKPCNFICKNTEGSYQCSCPKGYI LQEDGRSCKDLDECATKQHNCQFLCVNTIGGFTCKCPPGFTQHHTSCIDNNECTSDINLCGSKGICQNTPGSFTC ECQRGFSLDQTGSSCEDVDECEGNHRCQHGCQNIIGGYRCSCPQGYLQHYQWNQCVDENECLSAHICGGASCHNT LGSYKCMCPAGFQYEQFSGGCQDINECGSAQAPCSYGCSNTEGGYLCGCPPGYFRIGQGHCVSGMGMGRGNPEPP VSGEMDDNSLSPEACYECKINGYPKRGRKRRSTNETDASNIEDQSETEANVSLASWDVEKTAIFAFNISHVSNKV RILELLPALTTLTNHNRYLIESGNEDGFFKINQKEGISYLHFTKKKPVAGTYSLQISSTPLYKKKELNQLEDKYD KDYLSGELGDNLKMKIQVLLH

AAGATGCTGAAAGGAAAGAAGGCCAAGGGAAAGAAGGTGGCTCCGGCCCCTGCAGTCGTGAAGAAGCAGGAGGCT
AAGAAAGTGGTGAATCCCGTTTGAGCAAAGGCCTAAGAATTTTGCATTGACAGGACATCCAGCCCAAAAGAGA
CCTCACCCGCTTTGTGAAATGGCCCCACTATATCAGGCTGCTGGCAAAAGGGGGATGTCCCCACGAAGAGACCACCT
GTCCTTCGAGCAGGAGTTGACACCGTCACCACCTTGGTGGACAATAAGAAAGCTCAGCTGGTGCTGATTGCACAC
GACGTGGATCCCATCGAGCTGGTTGTCTTCTTGCCTGCCCTGTTCGTAAAATGGGGGTCCCTTACTGCATTATC
AAGGGGAAGGCAAGACTGGGACGTCTAGTCCACAGGAAGACCTGCACCACTGTGGCCTTCACACAGGTGAACTCG
GAAGACAAAGGCGCTTTGGCTAAGCTGGTGGAAGCTATCAGGACCAATTACAACGACAGATACGATGAGATCCGC
CGTCACTGGGGCGGCGACCGTCCTGGATCCTAAGTCTGTGGCTCGCATCGCCAAGCTCGAAAAGGCAAAAGGCTAAA
GAACTTGCCACTAAATTGGGTTAAATGTACACTGTTGAGTTTTCTGTACATAAAATAATTAAAATAATATAAAATT

GCGCCACCAGAGCGACCAAACGTCCCGCGCCTTCCAGGCCGCACTCCAGAGCCAAAAGAGCTCCATGCCGGCGGC GGCCAAGCCCAACAACCTTTCCCTGGTGGTGCACGGACCGGGGGACTTGCGCCTGGAGAACTATCCTATCCCTGA ACCAGGCCCAAATGAGGTCTTGCTGAGGATGCATTCTGTTGGAATCTGTGGCTCAGATGTCCACTACTGGGAGTA TGGTCGAATTGGGAATTTTATTGTGAAAAAGCCCATGGTGCTGGGACATGAAGCTTCGGGAACAGTCGAAAAAGT GGGATCATCGGTAAAGCACCTAAAACCAGGTGATCGTGTTGCCATCGAGCCTGGTGCTCCCCGAGAAAATGATGA ATTCTGCAAGATGGGCCGATACAATCTGTCACCTTCCATCTTCTTCTGTGCCACGCCCCCGATGACGGGAACCT CTGCCGGTTCTATAAGCACAATGCAGCCTTTTGTTACAAGCTTCCTGACAATGTCACCTTTGAGGAAGGCGCCCT GATCGAGCCACTTTCTGTGGGGATCCATGCCTGCAGGAGAGGCGGAGTTACCCTGGGACACAAGGTCCTTGTGTG TGGAGCTGGGCCAATCGGGATGGTCACTTTGCTCGTGGCCAAAGCAATGGGAGCAGCTCAAGTAGTGGTGACTGA TCTGTCTGCTACCCGATTGTCCAAAGCCAAGGAGATTGGGGCTGATTTAGTCCTCCAGATCTCCAAGGAGAGCCC TCAGGAAATCGCCAGGAAAGTAGAAGGTCAGCTGGGGTGCAAGCCGGAAGTCACCATCGAGTGCACGGGGGCAGA GGCCTCCATCCAGGCGGCATCTACGCCACTCGCTCTGGTGGGACCCTCGTGCTTGTGGGGCTGGGCTCTGAGAT GACCACCGTACCCCTACTGCATGCAGCCATCCGGGAGGTGGATATCAAGGGCGTGTTTCGATACTGCAACACGTG GCCAGTGGCGATTTCGATGCTTGCGTCCAAGTCTGTGAATGTAAAACCCCTCGTCACCCATAGGTTTCCTCTGGA GAAAGCTCTGGAGGCCTTTGAAACATTTAAAAAGGGATTGGGGTTGAAAATCATGCTCAAGTGTGACCCCAGTGA CCAGAATCCCTGATGTTAATGGGCTCTGCCCTCATCCCCACAGTCTTGGGATCTCAGGGCACAATGGCTGGACAT GGGTGGGCTCTGATGCAGAACTTTCTCTTTTGAATGTTAAGAATAACTAATACAATTCATTGTGAACAGAAGTCC TTAAGCAGAGGAATTGGTGTGCCTTAAAGATACAATCTGGGATAGTTTGGGGGAACTTGTAGCCAGAATGCCCTG TGCCTTCATTGAGGAAGGAAATCTGGCCCTTGGGTTTCCTGGTTCCACTGCTACTGACCCAGAGGGGAATGAGGG CTGAGTTATGAAAAGATAACTTCATGAAGACTTAACTGGCCCAGAAGCTGATTTTCATGAAAATCTGCCACTCAG GATGÁTAAAAGGAGAATAAGAAAAGGCATCACTTTCCTGGATCCAGGATAATTTTTAAACCAATCAAATGAAAAA AACAAACAAACAAAAAAGGAAATGTCATGTGAGGTTAAACCAGTTTGCATTCCCCTAATGTGGAAAAAGTAAGAG GACTACTCAGCACTGTTTGAAGATTGCCTCTTCTACAGCTTCTGAGAATTGTGTTATTTCACTTGCCAAGTGAAG GACCCCCTCCCAACATGCCCCAGCCCACCCCTAAGCATGGTCCCTTGTCACCAGGCAACCAGGAAACTGCTACT TGTGGACCTCACCAGAGACCAGGAGGGTTTGGTTAGCTCACAGGACTTCCCCCACCCCAGAAGATTAGCATCCCA ATTATAAACAGAAAATCTTTCCTCTTCTCATTACCAGTAAAGGCTCTTGGTATCTTTCTGTTGGAATGATTTCTA TGAACTTGTCTTATTTTAATGGTGGGTTTTTTTTTTGGGTAAGATTTAGACCTAAATCGCATCATGCCAACTTGTG ACTTTGAGACTATTCATCAAGAATGAGGATATAGTAGCCATGACATAGCTTTGAGCCTATAGCCTTTAATTCCTTAC TTTGGCTATGGGTGGAGGGTGAGTTTGAAGAGGTTCTGATTTTCTTGTAACCTGGGAAAGCCATGACCTTGTGCC ААААААААААА

MAAAAKPNNLSLVVHGPGDLRLENYPIPEPGPNEVLLRMHSVGICGSDVHYWEYGRIGNFIVKKPMVLGHEASGT VEKVGSSVKHLKPGDRVAIEPGAPRENDEFCKMGRYNLSPSIFFCATPPDDGNLCRFYKHNAAFCYKLPDNVTFE EGALIEPLSVGIHACRRGGVTLGHKVLVCGAGPIGMVTLLVAKAMGAAQVVVTDLSATRLSKAKEIGADLVLQIS KESPQEIARKVEGQLGCKPEVTIECTGAEASIQAGIYATRSGGTLVLVGLGSEMTTVPLLHAAIREVDIKGVFRY CNTWPVAISMLASKSVNVKPLVTHRFPLEKALEAFETFKKGLGLKIMLKCDPSDQNP

# FIGURE 4189

GGAGAACTATCCTATCCCTGAACCAGGCCCAAATGAGGTCTTGCTGAGGATCCATTCTGTTGGAATCTGTGGCTC AGATGTCCACTACTGGGAGTATGGTCGAATTGGGAATTTTATTGTGAAAAAGCCCATGGTGCTGGGACATGAAGC TTCGGGAACAGTCGAAAAAGTGGGATCATCGGTAAAGCACCTAAAACCAGGTGATCGTGTTGCCATCGAATCTGG TGCTCCCCGAGAAAATGATGAATTCTGCAAGATGGGCCGATACAATCTGTCACCTTCCATCTTCTTCTGTGCCAC ACCCCTGATGATGGGAACCTCTGCCAGTTCTATAAGCACAATGCAGCCTTTTGTTACAAGCTTCCTGACAATGT CACCTTTGAGGAAGGCGCCCTGATTGATCCACTTTCTGTGGGGATCCATGCCTGCAGGAGAGGCGGAGTTACCCT GGGACACAAGGTCCTTGTGTGTGGAGCTGGGGCAATCGGGGTAGTCACTTTGCTCGTGGCCAAGGCAATGGGAGC AGCTCAAGTAGTGGTGACTGATCTGTCTGCTACCCGATTGTCCAAAGCCAAGGAGATTGGGGCTGATTTAGTCCT CCAGATCTCCAAGGAGACCCTCAGGAAATCGCCAGGAAAGTAGAAGGTCTGCTGGGGTGCAAGCCGGAAGTCAC TTTCGATACTGCAACACGTGGCCAGTGGCGATTTCGATGCTTGCGTCCAAGTCTGTGAATGTAAAACCCCTCGTC ACCCATAGGTTTCCTCTGGAGAAAGCTCTGGAGGCCTTTGAAACATTTAAAAAGGGATTGGGGTTGAAAATCATG CTCAAGTGTGACCCCAGTGACCAGAATCCCTGATGTTAATGGGCTCTGCCCTCATCCCCAGTCTCGGGATCTCAG GGCACAATGGCTGGACATGGGTGGGCTCTGATGCAGAACTTTCTCTTTTGAATGTTAAGAATAACTAATACAATT CATTGTGAACAGAAGTCCTTACGCAGAGGAATTGGTGTGCCTTAAAGATACAATCTGGGATAGTTTGGGGGAACT CTCCCCTTCTTCCTGGAGTGCCTTCATTGAGGAAGGAAATCTGGCCCTTGGGTTTCCTGGTTCCACTGCTACTGA CCCAGAGGGGAATGAGGCTGAGTTATGAAAAGATAACTTCATGAAGACTTAACTGGCCCAGAAGCTGATTTTCA TGAAAATCTGCCACTCAGGGTCTGGGATGAAGGCTTGTCAGCACTTCCAGTTTAGAACGCAATGTTTCTAGAGAC ATATTGGCTGTTTGTTTTGATGATAAAAGGAGAATAAGAAAAGGCATCACTTTCCTGGATCCAGGATAATTTTTA ATGTGGAAAAGTAAGAGGACTACTCAGCACTGTTTGAAGATTGCCTCTTCTACAGCTTCTGAGAATTGTGTTAT  $\tt TTCACTTGCCAAGTGAAGGACCCCCTCCCCAACATGCCCCACCCCACCCCTAAGTACGGTCCCTTGTCACCAGGC$ AACCAGGAAACTGCTACTTGTGGACCTCACCAGAGACCAGGAGGGTTTGGTTAGCTCACAGGACTTCCCCCACCC CAGAAGATTAGCATGCCATACTAGACTCATACTCAACTCAGCTCATACTCAATTGATGGTTATTAGACAA TTCCATTTCTTCTGGTTATTATAAACAGAAAATCTTTCCTCTTCTCATTACCAGTAAAGGCTCTTGGTATCTTT GCATCATGCCAACTTGTGACTTTGAGACTATTCATCAAGAATGAGGATATAGTAGCCATGACATAGCTTGAGCTA TAGCCTTTAATTCCTTACTTTGGCTATGGGTGGAGGTGAGTTTGAAGAGGTTCTGATTTTCTTGTAACCTGGGA 

 ${\tt MHSVGICGSDVHYWEYGRIGNFIVKKPMVLGHEASGTVEKVGSSVKHLKPGDRVAIESGAPRENDEFCKMGRYNL}\\ {\tt SPSIFFCATPPDDGNLCQFYKHNAAFCYKLPDNVTFEEGALIDPLSVGIHACRRGGVTLGHKVLVCGAGAIGVVT}\\ {\tt LLVAKAMGAAQVVVTDLSATRLSKAKEIGADLVLQISKESPQEIARKVEGLLGCKPEVTIECTGQRPPSRQASTP}\\ {\tt LALVGPSCLWGWALR} \\ {\tt CALVGPSCLWGWALR} \\ {\tt CALVGPSCLWGWALR}$ 

MGKGSFKYAWVLDKLKAEREHGITIHISLWKFETSRYYVTITDVPGHRDFIKNMITGTSQADCAVLIVAAGVGEF EAGISRMSTKLMVLVLFLLAKWRLVFSNLVWWSSLLQSTLQLK

CTGGTCTAACAGACCCGCGAGAACGAAGGACGCTTGCCTTTTTCCGGTCGGGGAAGGGGGGAAGAAGGTAACTTCC TCGAAAAGTGTTATTTCTGTTCGGGGCCCATCTATCCTGGACACGCATGATGTTCGTCCGCAACGATTGCAAGG TGTTCAGATTTTGCAAATCTAAATGTCATAAAAACTTTAAAAAGAAGCGCAATCCTCGCAAAGTTAGGTGGACCA AAGCATTCCGGAAAGCAGCTGGTAAAGAGCTTACAGTGGATAATTCATTTGAATTTGAAAAACGTAGAAATGAAC CTATCAAATACCAGCGAGAGCTATGGAATAAAACTATTGATGCGATGAAGAGGTTGAAGAAATCAAACAGAAGC GCCAAGCTAAATTTATAATGAACAGATTGAAGAAAAATAAAGAGCTACAGAAAGTTCAGGATATCAAAGAAGTCA AGCAAAACATCCATCTTATCCGAGCCCCTCTTGCAGGCAAAGGGAAACAGTTGGAAGAGAAAATGGTACAGCAGT  ${\tt TACAAGAGGATGTGGAAGATGCTCCT} \underline{{\tt TAA}} {\tt AAATCTCTGTAACCATTTCTTTTATGTACATTTGAAAATG}$ CCCTTTGGATACTTGGAACTGCTAAATTATTTTATTTTTTTACATAAGGTCACTTAAATGAAAAGCGATTAAAAGA CATCTTTCCTGCATTGCCATCTACATAATATCAGATATTACGGATGTTAGATTGCATCTCAGTGTTAAATCTTTA CTGATAGATGTACTTAAGTAAATCATGAAAATTCTACTTGTAACTATAGAAGTGAATTGTGGACGTAAAATGGTT GTGCTATTTGGATAATGGCACTAGGCAGCATTTGTATAGTAACTAATGGCAAAAATTCATGGCTAGTGATGTATA AAATAAAATATTCTTTGCAGTAAAATATTCCCTTTGTTAATGTTATAGAAGGGGGGGATACAAAAAGGAACTAACA ATTTGTATGGCAGTGTCAGATATTTTTATTTTAGTATTTCCTGTTTTTGGTTTATTTTGCATCTTAGAAGAGCATAA TGACATTGTTTGATGAAGCCTAATTATGCTGGACTGTTTTTGACCTGGTTTAACCCTTCTGATAGGTAGTTGTGGA TGCTGGGGATGAGAACTGAATAATCTTTGCCTGGAGTGACACTACACTCTAGAATTTCCACTTTGGAGAATACTC AGTTCCAACTTGTGATTCCTGATAGAACAGACTTTACTTTTCTAGCCCAGCATTGATCTAGAAGCAGAGGAATCC CAGCGCCTTTTAAAAGTTGTTATGTGGTTTTCTTTTAAAAAGCTCCTGTTTTTGGAAAGTAGAATTTATGGGTAC 

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# 4551/6881 FIGURE 4194

 ${\tt MRIEKCYFCSGPIYPGHGMMFVRNDCKVFRFCKSKCHKNFKKKRNPRKVRWTKAFRKAAGKELTVDNSFEFEKRR} \\ {\tt NEPIKYQRELWNKTIDAMKRVEEIKQKRQAKFIMNRLKKNKELQKVQDIKEVKQNIHLIRAPLAGKGKQLEEKMV} \\ {\tt QQLQEDVDMEDAP} \\$ 

# FIGURE 4195

ACATAACTCCCCATGTCTGTTGATAAAAAAGAGACCCTAAGGAGGATTAAACTGTTCTCATCCTTTCGTTAGGGA ACTGGGAATTGAAGCTGGAGTGACTGCAGCTACTTATACACCTGGTGCATTGCATCCTCACTTGGCCCCATTATCA  $\tt CGCACCTCCTCGACTCATCACTTACAATTAGGAGCTCTTCCTTTA\underline{ATG} \tt GTTCCTGATATGGCAGGCTATCCTCA$ CATCCGTTACATTTCATCAGGATTGGATGGAACATCATTCAGAGGTCCTTTCAGGGGCAATTTTGAGGAACTGAT TCATTTGGAAGAAAGATTAGGCAATGTCAATCGTGGAGCATCCCAGGGGACAATTGAAAGATGTACATATCCACA TAAATACAAAAAGAGGAAACTGCACTGCAAACAAGATGGGGGAAGAAGGGGACTGAGGAAGACACAGAGGAAAAATG TACTATCTGTTTGTCTATTTTAGAGGAAGGTGAAGATGTGAGACGTCTTCCATGTATGCACCTTTTCCACCAAGT GTGTGTTGACCAATGGTTGATTACCAATAAGAAGTGCCCCATATGCAGAGTGGACATTGAGGCCCAGCTGCCAAG  ${\tt TGAAAGT} \underline{{\tt TGA}} {\tt CACCATGTTTCAGAACTCTTGCCCTCCCTCTCATTCCCATCCTTGCTGCTACTGCAGTCAACCAA}$ AGATGGCATGACTTACCTGCGCAGATTTGGAAGCATTGAACTTAGAGTGCTGGCTCTGCTATATGGTACAACTAA TTCTGTATCATTTTACTGTATTTTTGCATGGTTCCTTGTATTGCATTTTTTTGCACATATTATGGGCTTGTGACC AGATCCTCTAGAAAATGATAATATTGTGTATTAAGACATTCCTTAATTAGGACAAAATGGCTGCTGTATATTTAC TATATGGAGTTCTGAGTTAAATACCATCCTTAATACTGGGAACAGAATACAACCCATATAAATCAGATGCAGGTG GTAGTCACATCACCAGAGTGATCAGTATAAATTTTCTTGGTGTATCCTTTTCCTTTCAACACAGTGCAGATAAGA GTTGAATATTGATATCATACATTTAGACTGCTGTTCTGATTGCATTTATCTTTTTCCTACATCATTTAGAATTTT ATTTCCCTGATTCAGTTTTTGCTGCTGTGAAACAGCTCTGATGAACACTAAATATTAATTTCAATTAGCTAGATT GTACATACTTGCAGATTTAACAAAATTTTAGGGAAATTGAAAAAGACATGTAGAATTTGTTGTCTTCTGCTAAGC ACGAAAAGTTAAGATATCTGCTTACATTGATTTTGTAGACACATTAAGTCAAGATTTGGAATTTAAGTCACTGGC AGGTATCTGTGCATTCATAGAACTTATAAAGGTCCCAGGATCACTTTTAAGGGATTTTTATTAGTTTAAAGGTAA ATAAAGTCAGCTGAATCTACATGTCTCTTGTTTTATTTCTCTCTAAACTTGAAAACAGTAAATCTGCAGATACTG TGAGGCACAAATTATACTGTCAACCTACTGTTGCTATGGTTATATACTCCCACTTCATACATTACCAAGAGTCGA TCACTGATTTAAAATTTTTAATTTCTATAGTTAAGATTTACTGCATAATATAGAATATAAAGTTAAGTTAACATA CTAACATTTCTCCTTTGGAGGAAGTTTTAATCTACTTCAGGATGCATATTATTATCAAGATACTTCATATACAG GTCTGTATGTGGAGGACATGTTCCCATGGATCATATGTGAAGATGTCAATAAGCTTGCATTAAGCCACCTGCTTT 

 ${\tt MVPDMAGYPHIRYISSGLDGTSFRGPFRGNFEELIHLEERLGNVNRGASQGTIERCTYPHKYKKRKLHCKQDGEE}\\ {\tt GTEEDTEEKCTICLSILEEGEDVRRLPCMHLFHQVCVDQWLITNKKCPICRVDIEAQLPSES}$ 

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## 4554/6881 FIGURE 4197

AATCCTGGAACAAGGCTACAGCGTCGAAGATCCCCAGCGCTGCGGGCTCGGAGAGCAGTCCTAACGGCGCCTCGT  ${\tt ACGCTAGTGTCCTCCCTTTTCAGTCCGCGTCCCTCCCTGGGCCGGGCTGGCACTCTTGCCTTCCCCGTCCCTC} \underline{{\tt AT}}$ GGCGCTGCTCCGACGCCCGACGGTGTCCAGTGATTTGGAGAATATTGACACAGGAGTTAATTCTAAAGTTAAGAG TCATGTGACTATTAGGCGAACTGTTTTAGAAGAAATTGGAAATAGAGTTACAACCAGAGCAGCACAAGTAGCTAA TTCTGTCAAACCAGTACAGATGGAAAAGTTGGCTCCAAAGGGTCCTTCTCCCACACCTGAGGATGTCTCCATGAA GGAAGAGATCTCTGCCAAGCTTTTTCTGATGCCTTGCTCTGCAAAATCGAGGACATTGATAACGAAGATTGGGA AAACCCACATTTCTTAGATGGAAGAGATATAAATGGACGCATGCGTGCCATCCTAGTGGATTGGCTGGTACAAGT  ${\tt CCACTCCAAGTTTAGGCTTCTGCAGGAGACTCTGTACATGTGCGTTGGCATTATGGATCGATTTTTACAGGTTCA}$ GCCAGTTTCCCGGAAGAAGCTTCAATTAGTTGGGATTACTGCTCTGCTCTTGGCTTCCAAGTATGAGGAGATGTT TTCTCCAAATATTGAAGACTTTGTTTACATCACAGACAATGCTTATACCAGTTCCCAAATCCGAGAAATGGAAAC TCTAATTTTGAAAGAATTGAAATTTGAGTTGGGTCGACCCTTGCCACTACACTTCTTAAGGCGAGCATCAAAAGC CGGGGAGGTTGATGTTGAACAGCACACTTTAGCCAAGTATTTGATGGAGCTGACTCTCATCGACTATGATATGGT GCATTATCATCCTTCTAAGGTAGCAGCAGCTGCTTCCTGCTTGTCTCAGAAGGTTCTAGGACAAGGAAAATGGAA GGTGAAAGTAAATGAAAACTTAACTAAATTCATCGCCATCAAGAATAAGTATGCAAGCAGCAAACTCCTGAAGAT CAGCATGATCCCTCAGCTGAACTCAAAAGCCGTCAAAGACCTTGCCTCCCCACTGATAGGAAGGTCC<u>TAG</u>GCTGC CGTGGGCCCTGGGGATGTGTGCTTCATTGTGCCCTTTTTCTTATTGGTTTAGAACTCTTGATTTTGTACATAGTC CTCTGGTCTATCTCATGAAACCTCTTCTCAGACCAGTTTTCTAAACATATATTGAGGAAAAAATAAAGCGATTGGT TTTTCTTAAGGTAAAAAAAAAAAAAAAAAAA

i

MALLRRPTVSSDLENIDTGVNSKVKSHVTIRRTVLEEIGNRVTTRAAQVAKKAQNTKVPVQPTKTTNVNKQLKPT
ASVKPVQMEKLAPKGPSPTPEDVSMKEENLCQAFSDALLCKIEDIDNEDWENPQLCSDYVKDIYQYLRQLEVLQS
INPHFLDGRDINGRMRAILVDWLVQVHSKFRLLQETLYMCVGIMDRFLQVQPVSRKKLQLVGITALLLASKYEEM
FSPNIEDFVYITDNAYTSSQIREMETLILKELKFELGRPLPLHFLRRASKAGEVDVEQHTLAKYLMELTLIDYDM
VHYHPSKVAAAASCLSQKVLGQGKWNLKQQYYTGYTENEVLEVMQHMAKNVVKVNENLTKFIAIKNKYASSKLLK
ISMIPQLNSKAVKDLASPLIGRS

## 4556/6881 FIGURE 4199A

CGAGCGCATCGGACTCACCTGGGCCGGCGGCGACCGGCGAGTACGAGTGGACTCTTGCCCTCCGCAGCATGCGCC GGAAGCAAAGGTGTCTACCAGTACCACTGGCAAAGCCACAATGTCAAGCACAGTGGTGTGGACGACATGGTGCTA CTGTCCAAGATCACAGAGAACTCCATCGTGGAGAATCTGAAGAAGAGATACATGGATGACTACATTTTTACATAT ATAGGATCTGTATTAATCTCAGTCAACCCTTTCAAGCAGATGCCATATTTTGGGGAAAAGGAAATTGAAATGTAC CAAGGAGCGCACAGTATGAAAACCCACCACATATCTATGCCCTTGCAGATAATATGTACAGAAACATGATCATT GACAGAGAAACCAGTGCGTCATTATCAGTGGTGAAAGTGGTGCTGGAAAAACAGTGGCTGCCAAATATATCATG AGCTACATCTCCAGAGTGTCTGGAGGAGGGACCAAAGTCCAGCACGTGAAGGACATTATCCTGCAGTCCAACCCG CTGCTGGAGGCCTTCGGGAACGCCAAGACCGTCCGGAACAACACTCCAGCCGATTTGGAAAATACTTTGAAATC AGGAACCCAGGAGAGCGGAGTTTTCACATATTTTACCAGCTCATCGAGGGCCCCTCTGCAGAGCAGAAACACAGC CTTGGCATCACCAGCATGGACTATTATTACTACCTGAGCCTCTCGGGCTCATACAAGGTTGATGACATTGACGAC AGGCGGGAGTTTCAGGAAACTCTGCACGCCATGAATGTGATTGGGATCTTTGCAGAAGAGCAAACGCTGGTGTTG CAGATAGTGGCGGGTATTCTCCACCTGGGAAACATCAGCTTCAAAGAAGTTGGCAACTACGCGGCTGTGGAGAGT CAGATGGATAGCAAGTGGGGAGGCAAATCCGAATCCACGTGACCCTCAACGTAGAGCAGGCCTGTTACACC AAAGACCATGAAGAATACAACATTGGCGTCCTAGACATCTATGGCTTTGAAATATTCCAGAAAAATGGCTTTGAA CAGTTTTGTATCAATTTTGTTAATGAAAAACTGCAGCAGATTTTTATTGAACTGACATTAAAGGCAGAACAGGAA GAATATGTTCAAGAGGGAATAAGATGGACACCCATTGAGTACTTTAATAATAAAATCGTATGTGACCTCATAGAG GCAGATCAGACGCTGCTCCAGAAACTTCAGATGCAGATTGGGAGTCATGAGCACTTCAACAGTTGGAACCAAGGC TTTATGGATCTCATCGAGCTTATGCAGAGCAGCGAGCTGCCTTTCATAAAGTCTTTATTTCCGGAAAATCTGCAG GCTGACAAGAAAGGGCGCCCAACTACTGCCGGAAGCAAAATAAAGAAACAAGCCAATGACCTTGTGAGCACCCTG ATGAAATGTACGCCCCACTACATTCGCTGCATCAAGCCAAACGAAACCAAGAAGCCCAGAGACTGGGAGGAAAGC AGGGTAAAGCATCAAGTCGAATATTTGGGTCTGAAAGAGAACATTCGAGTGAGAAGAGCTGGCTATGCCTATCGG CGCATCTTCCAAAAATTCCTACAGAGGTATGCCATTCTGACCAAAGCCACCTGGCCTTCTTGGCAGGGAGAGGAG AAGCAAGGCGTCCTGCACCTGCAGCTCGGTCAACATGGACAGCGACCAGTTCCAGCTGGGGAGGAGTAAAGTG ATACAGAAATCATGGAGGAAATTCGTGGCCCGGAAGAAATACGTTCAAATGAGAAGAAGAAGCCTCAGACCTCTTA TTGAACAAGAAGGAGAAGGAGAAACAGTATTAACAGGAACTTTATAGGGGATTATATTGGGATGGAAGAGCAC TTCAAGGGTGTAAAGCGAGACCTGCTCCTTACCCCAAAGTGCTTGTACTTAATCGGACGAGAAAAAGTCAAACAG GGCCCAGACAAGGGCCTGGTGAAAGAAGTCCTGAAGCGGAAAATCGAGATAGAACGGATCTTGTCTGTGTCCCTC AGTACTATGCAGGATGACATTTTTATTCTCCATGAGCAAGAGTATGACAGTTTGCTTGAATCTGTCTTCAAAACT GAATTCCTAAGCCTCTTAGCAAAGCGTTACGAGGAGAAGACCCAGAAGCAACTACCTCTGAAATTCAGCAATACG CTTGAACTGAAGTTGAAAAAGGAAAACTGGGGCCCCTGGAGTGCAGGGGGGCTCCCGGCAAGTGCAGTTCCACCAA GGGTTTGGGGACCTGGCTGTCCTCAAGCCCAGTAACAAAGTGCTGCAGGTCAGCATCGGACCTGGACTGCCCAAG AACTCCCGTCCTACCAGAAGGAACACTACCCAAAATACAGGTTATTCCAGTGGGACTCAAAATGCCAACTACCCA GTGAGAGCTGCCCCTCCCCCAGGATACCATCAGAACGGAGTCATCAGAAACCAGTATGTGCCATATCCCCAT TCTACCAGTTCAGACCGAGTGTCACAGACGCCAGAGAGCCTGGATTTCCTCAAGGTCCCGGACCAGGGAGCTGCA GGGGTCAGGAGACAACCAGTCGGCCTCCCCCAGCAGGGGGCAGACCCAAGCCCCAAGCCCAAGCCCAAGCCC CAGGTGCCACAGTGCAAGGCTTTGTATGCCTATGACGCTCAGGACACAGACGAACTCAGCTTTAATGCCAATGAC

## 4557/6881 FIGURE 4199B

MAVGKNKRLTKGGKKGAKKKVVDPFSKKDWYDVKAPAMFNIRNIGKTLVTRTQGTKIASDGLKGRVFEVSLADLQ NDEVAFRKFKLITEDVQGKNCLTNFHGMDLTRDKMCSMVKKWQTMIEAHVDVKTTDGYLLRLFCVGFTKKRKNQI RKTSYAQHQQVRQIRKKMMEIMIREVQTNDLKEVVNKLIPDSIGKDIEKACQSIYPLHDVFVRKVKMLKKPKFEL GKLMELHGEGSSSGKATGDETGAKVERADGYEPPVQESV

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## 4560/6881 FIGURE 4202

GTGTGGATGAGGTCACCATTGTCAACATTTTGACCAACCGCAGCAATGCACAGAGACAGGATATTGCCTTCGCCT ACCAGAGAGGACCAAAAAGGAACTTGCATCAGCACTGAAGTCAGCCTTATCTGGCCACCTGGAGACGGTGATTT TGGGCCTATTGAAGACACCTGCTCAGTATGACGCTTCTGAGCTAAAAGCTTCCATGAAGGGGCTGGGAACCGACG XXXXXGGTAGAAGAGCAGAGGATGCCTCTGTCATTGATTATGAACTGATTGACCAAGATGCTCGGGATCTCTATG  ${\tt ACGCTGGAGTGAAGGGAAAGGAACTGATGTTCCCAAGTGGATCAGCATCATGACCGAGCGGAGCGTGCCCCACC}$ TCCAGAAAGTATTTGATAGGTACAAGAGTTACAGCCCTTATGACATGTTGGAAAGCATCAGGAAAGAGGTTAAAG GAGACCTGGAAAATGCTTTCCTGAACCTGGTTCAGTGCATTCAGAACAAGCCCCTGTATTTTGCTGATCGGCTGT ATGACTCCATGAAGGGCAAGGGGACGCGAGATAAGGTCCTGATCAGAATCATGGTCTCCCGCAGTGAAGTGGACA TGTTGAAAATTAGGTCTGAATTCAAGAGAAAGTACGGCAAGTCCCTGTACTATTATATCCAGCAAGACACTAAGG GCGACTACCAGAAAGCGCTGCTGTACCTGTGTGGTGGAGATGACTGAAGCCCGACACGGCCTGAGCGTCCAGAAA TGGTGCTCACCATGCTTCCAGCTAACAGGTCTAGAAAACCAGCTTGCGAATAACAGTCCCCGTGGCCATCCCTGT GAGGGTGACGTTAGCATTACCCCCAACCTCATTTTAGTTGCCTAAGCATTGCCTGGCCTTCCTGTCTAGTCTCTC CTGTAAGCCAAAGAAATGAACATTCCAAGGAGTTGGAAGTCTATGATGTGAAACACTTTGCCTCCTGTGT ACTGTGTCATAAACAGATGAATAAACTGAATTTGTACTTT

 $\tt CCCGGCACAGCCCGCGCCCCGCAGGAGCCCGCGAAG\underline{ATG} \tt CCCGGCGCAGCCTGCACGCGGCGGCGGCGTGCT$ CCTGCTGGTGATCTTAAAGGAACAGCCTTCCAGCCCGGCCCCAGTGAACGGTTCCAAGTGGACTTATTTTGGTCC TGATGGGGAGAATAGCTGGTCCAAGAAGTACCCGTCGTGTGGGGGCCTGCTGCAGTCCCCCATAGACCTGCACAG TCTCCTGACCAACAATGGCCATTCAGTGAAGCTGAACCTGCCCTCGGACATGCACATCCAGGGCCTCCAGTCTCG CTACAGTGCCACGCAGCTGCACTGGGGGGAACCCGAATGACCCGCACGGCTCTGAGCACACCGTCAGCGG ACAGCACTTCGCCGCCGAGCTGCACATTGTCCATTATAACTCAGACCTTTATCCTGACGCCAGCACTGCCAGCAA CAAGTCAGAAGGCCTCGCTGTCCTGGCTGTTCTCATTGAGATGGGCTCCTTCAATCCGTCCTATGACAAGATCTT CAGTCACCTTCAACATGTAAAGTACAAAGGCCAGGAAGCATTCGTCCCGGGATTCAACATTGAAGAGCTGCTTCC GGAGAGGACCGCTGAATATTACCGCTACCGGGGGTCCCTGACCACCCCCTTGCAACCCCACTGTGCTCTGGAC GGACGACCCTTCCCCCAGAGAATGATCAACAACTTCCGGCAGGTCCAGAAGTTCGATGAGAGGCTGGTATACAC ACATCCAGGAAGGACCTTGCTTTGGACCCTACACACTTCGGCTCTCTGGACACTTGCGACACCTCAAGGTGTTCT ACTGTGTGAGATTGTGAAGTGGTCTGAATTCTGGAATCACAAACCAAGCCATGCTGGTGGGCCATTAATGGTTGG AAAACACTTTCATCCGGGGCTTTGCCAGAGCGTGCTTTCAAGTGTCCTGGAAAGTCTGCTGCTTCTCCAAGCTTT CAGACAAGAATGTGCACTCTCTGCTTAGGTTTTGCTTGGGAAACTCAACTTCTTTCCTCTGGAGACGGGGCATCT CCCTCTGATTTCCTTCTGCTATGACAAAACCTTTAATCTGCACCTTACAACTCGGGGACAAATGGGGACAGGAAG GATCAAGTTGTAGAGAGAAAAAAGAAAACAAGAGATATACATTGTGATATATTAGGGACACTTTCACAGTCCTGT CCTCTGGATCACAGACACTGCACAGACCTTAGGGAATGGCAGGTTCAAGTTCCACTTCTTGGTGGGGATGAGAAG GGAGAGAGAGCTAGAGGGACAAAGAGAATGAGAAGACATGGATGATCTGGGAGAGTCTCACTTTGGAATCAGAAT TGGAATCACATTCTGTTTATCAAGCCATAATGTAAGGACAGAATAATACAATATTAAGTCCAAATCCAACCTCCT GTCAGTGGAGCAGTTATGTTTTATACTCTACAGATTTTACAAATAATGAGGCTGTTCCTTGAAAATGTGTTGTTG CTGTGTCCTGGAGGAGACATGAGTTCCGAGATGACCCAATCTGCCTTTGAATCTGGAGGAAAATAGGCAGAAACAA AATGACTGTAGAACTTATTCTCTGTAGGCCAAATTTCATTTCAGCCACTTCTGCAGGATCCCTACTGCCAACCTG GAATGGAGACTTTTATCTACTTCTCTCTCTGAAGATGTCAAATCGTGGTTTAGATCAAATATATTTCAAGCTA TAAAAGCAGGAGGTTATCTGTGCAGGGGGCTGGCATCATGTATTTAGGGGCAAGTAATAATGGAATGCTACTAAG ATACTCCATATTCTTCCCCGAATCACAGACAGTTTCTGACAGGCGCAACTCCTCCATTTTCCTCCCGCAGGTG AGAACCCTGTGGAGATGAGTCAGTGCCATGACTGAGAAGGAACCGACCCCTAGTTGAGAGCACCTTGCAGTTCCC CGAGAACTTTCTGATTCACAGTCTCATTTTGACAGCATGAAATGTCCTCTTGAAGCATAGCTTTTTAAATATCTT TTTCCTTCTACTCCTCCTCTGACTCTAAGAATTCTCTCTTCTGGAATCGCTTGAACCCAGGAGGCGGAGGTTGC 

MPRRSLHAAAVLLLVILKEQPSSPAPVNGSKWTYFGPDGENSWSKKYPSCGGLLQSPIDLHSDILQYDASLTPLE FQGYNLSANKQFLLTNNGHSVKLNLPSDMHIQGLQSRYSATQLHLHWGNPNDPHGSEHTVSGQHFAAELHIVHYN SDLYPDASTASNKSEGLAVLAVLIEMGSFNPSYDKIFSHLQHVKYKGQEAFVPGFNIEELLPERTAEYYRYRGSL TTPPCNPTVLWTVFRNPVQISQEQLLALETALYCTHMDDPSPREMINNFRQVQKFDERLVYTSFSQVQVCTAAGL SLGIILSLALAGILGICIVVVVSIWLFRRKSIKKGDNKGVIYKPATKMETEAHA

 ${\tt GCAGATCGCTTGCAGCTTGCTAGCTGTGGGGCTGGGAGGTCTGGTAGGGCTGAGCTTGCAAGAGGATCAAC{\color{red} {\tt ATG}}{\color{black} {\tt ATG}}$ 

MPLARDLLHPSLEEEKKKHKKKRLVQSPNSYFMDVKCPGCYKITTVFSHAQTVVLCVGCSTVLCQPTGGKARLTE GCSFRRKQH

TTGATGCTCTAAATGCAGAATTAATGGAGACTTCAATGACTGATATGTCAATTCTTAGTTTCTTTGAACATTTCC ATATTTCTCCTGTGAAGTTGCATTTGAGTTTGTCTTTGGGTTCCGGAGGTGAAGAATCAGACAAAGAAAAAACAGG TATTCAAACTTGCTTATTATGAAATTCGATATCAGTTCTACAAGAGAGATCAGCTTATATGGAGTGTTGTTAGGC ATTACAGTGAACAGTTCTTGAAACAGATGTATGTCCTTGTATTGGGGTTAGATGTACTTGGAAACCCATTTGGAT TAATTAGAGGTCTGTCTGAAGGAGTTGAAGCTTTATTCTATGAACCCTTCCAGGGTGCTGTTCAAGGCCCTGAAG AATTTGCAGAGGGGTTAGTGATTGGAGTGAGAAGCCTCTTTGGACACACAGTAGGTGGTGCAGCAGGAGTTGTAT CTCGAATCACCGGTTCTGTTGGGAAAGGTTTGGCAGCAATTACAATGGACAAGGAATATCAGCAAAAAAAGAAGAG AAGAGTTGAGTCGACAGCCCAGAGATTTTGGAGACAGCCTGGCCAGAGGAGAAAGGGCTTTCTGCGAGGAGTTG GAATTGGAAAAGGGCTTGTGGGTGCTGTGGCCCGTCCAACTGGTGGAATCGTAGATATGGCCAGTAGTACCTTCC AAGGCATTCAGAGGGCAGCAGAATCAACTGAGGAAGTATCTAGCCTCCGTCCCCTCGCCTGATCCATGAAGATG GAGAGACTTACCGATACCACTGTGCTATTCCTGGAAGCAAGACAATCCTTATGGTTACAAATAGGCGAGTGT TGTGTATAAAGGAAGTTGAAATCCTGGGCCTTATGTGTGTAGACTGGCAATGTCCATTTGAAGATTTTGTATTTC CTCCTAGTGTCAGTGAAAATGTGCTAAAAATTTCAGTTAAGGAACAGGGTCTGTTCCACAAAAAAGACAGTGCCA  ${\tt CACAGTCAACGAGCAGCAGCAAAAATTGATGAAGCAGTCATCAGTGAGACTTCTCAGACCCCAATTGCCATCT{\color{red}\underline{T}}$ AATCACAGACCTCAGGGGCTCCAACAGGGAGAAAAAACAATCACTGGTCTTGTCTATAAGTCACTCTGCTTTATC TTGCTAAAGACAATTTTTCAAGCAATCCTTTAGTTTTAGTTTTCTGGAATAGCTAGTATTGGGTTTTCTAGTTTT TTCACCTTTTAGTTTTTACTCTAATTTTGTAACCATGTATATGCTAGCAGTCCACTTCTACGCCACCCCAAAT GGGTCAGACCCTTGAAGAAACGTCACTTCAAACTCAGAATGAAATTTTCATTAATATTAAAATTGTGAAGCAAAG GTCAATAGGCTTATATTTAATTAAAGCCTTACTGAAGAATAAGAAATGAGCTTAGAATGACTAGTGTTCTTTGAA GGAATGCAGTGGTGCGATCTTGGCTCACTGCAATCTCTGCCTCTCGGGTTCAAGCGGTTCTACTGCCTCAGCCTC GAGTTTCACCATGTTGGTCAGTCTAGTCTCGAACTCCTGACCTTGTGATCCGCATGCCTCAGCCTCCCAAAGTGC TGGGATTACAGGCATGAGCCACCACGGCCCAAAAGGCTTTAACCCATGAACAAATGTTGGATCCTGACATTT TCACTAAAGGGAGAAATGACATGTTTTCTATTTTCTTTTCATGAAAACACTGTTTTTCCCCCTAATAAAGCATAT TTTACTTTGGTGCTTATTTTTCCTCCTTGCAGTCTAATAAAAAAATCTGGACAATCAAACCTTAAAATAGCTACA CTCTGCCCTCTGTAATGTAGCATTCATAAAAATTTGGAAGTATTTACATCCTCTTTCAAGATGAGCTTATATGAC ACAATTATTATTTGCTGATACATGAAAATACTGCACTTTAAGTTTCTCAAGACTCTGAAATATGTAAAATTCAAT ATTTTTATATTCCCAGAAATTGTTTCTTACAGGTTGAAAGTCTTTTAAGGGCATCACAAATTAACATTTACTCCT TCCTTTCTCCATCCTTGATCAGAGATAAACTATTAAAAACTTTAAAAAATACTCAAAAATATGTAAGTTTTTTGGT CACGCTTGGTTTGCTCTATTTTTGTTTATGTGTGATAGTGGTTCTGTCATCATCATCATGTTTTTTAAGGCCTG GTCATAAAACTTTAAATTTTACTAGTGTTACTTAATGTATATTCTAAAAAAGAGAATGCAGTAACTAATGCCCTAA TTAAATTGAATTTCTATATTAGTGGTTAATTGCAGTTTATTAAAGGGATCATTATCAGTAATTTCATAGCAACTG TTCTAGTGTTTTGTGTTTTTAAAACAGAATTAGGAATTTGAGATATCTGATTATATTTTTCATATGAATCACAGC TGTTGACAATGTCCCATATATTTAAGAAATTATATCATACTGATACTATTTGTAACATTTTGATTTGATTTAATC TCCAGGGACAGAAATAATTCATTGGTAAAGTGTAATAATGCGTTTTTTAAAAATGCTTTGAGAGGTAATTACTTG 

METSMTDMSILSFFEHFHISPVKLHLSLSLGSGGEESDKEKQEMFAVHSVNLLLKSIGATLTDVDDLIFKLAYYE IRYQFYKRDQLIWSVVRHYSEQFLKQMYVLVLGLDVLGNPFGLIRGLSEGVEALFYEPFQGAVQGPEEFAEGLVI GVRSLFGHTVGGAAGVVSRITGSVGKGLAAITMDKEYQQKRREELSRQPRDFGDSLARGGKGFLRGVVGGVTGII TKPVEGAKKEGAAGFFKGIGKGLVGAVARPTGGIVDMASSTFQGIQRAAESTEEVSSLRPPRLIHEDGIIRPYDR QESEGSDLLENHIKKLEGETYRYHCAIPGSKKTILMVTNRRVLCIKEVEILGLMCVDWQCPFEDFVFPPSVSENV LKISVKEQGLFHKKDSANQGCVRKVYLKDTATAERACNAIEDAQSTRQQQKLMKQSSVRLLRPQLPS

CATCCATCTATCCACTCCCTGCGCCGCCTCCTCCCACCCTGAGCAGAGCCGCCGAGGATGATAAACACCCAGGAC AGTAGTATTTTGCCTTTGAGTAACTGTCCCCAGCTCCAGTGCTGCAGGCCACATTGTTCCAGGGCCTCTGTGGTGC TCCTGATGCCCCTCACCCACTGTCGAAGATCCCCGGTGGGCGAGGGGGCGGCAGGGATCCTTCTCTCAGCTCT AATATATAAGGACGAGAAGCTCACTGTGACCCAGGACCTCCCTGTGAATGATGGAAAACCTCACATCGTCCACTT CCCAGATGGATTATTAGCTGATGGGAGCAAAGAAGGATTGTTAGCACTGCTAGAGTTTGCTGAAGAGAAGATGAA AGTGAACTATGTCTTCATCTGCTTCAGGAAGGGCCCGAGAAGACAGAGCTCCACTCCTGAAGACCTTCAGCTTCTT GGGCTTTGAGATTGTACGTCCAGGCCATCCCTGTGTCCCCTCTCGGCCAGATGTGATGTTCATGGTTTATCCCCT GGACCAGAACTTGTCCGATGAGGACTAATAGTCATAGAGGGTGCTTTACCCAAGAGCCACAGTGGGGGAAGAGGG GAAGTTAGGCAGCCCTGGGACAGACGAGAGGGCTCCTCGCTGTCTAGGGAAGGACACTGAGGGGCTCAGGGTGAG GGTTGCCTATTGTGTTCTCGGAGTTGACTCGTTGAAATTGTTTTCCATAAAGAACAGTATAAACATATTATTCAC ATGTAATCACCAATAGTAAATGAAGATGTTTATGAACTGGCATTAGAAGCTTTCTAAACTGCGCTGTGATGTG TGGTGGGCAGCTCTAGGCTCAGGTTTCCCTGCTGTTGGCTTTCTGTTTTTGGTTATTAAGACTTGTGTATTTT CTTTCTTTGCTTCCTGTCACCCCAGGGGCTCCTGAGTATAGGCTTTTCAGTCCCTGGGCAGTGTCCTTGAGTTGT TTTTTGACACTCTTACCTGGGCTTCTCTGTGTGCATTTGCGTCTGGCCTGGAGTAAGCAGGTCCGACCCCTCGTT CTTTACAGCTTAGTGTTATTCTGGCATTTGGTTAAGCTGGCTTAATCTTGTTTAATGTTATCAGTACATTTTAAA TAGGGGCATTGAAATTTACTCCCACCACCAGGGCTTTTTTGGGGGATGCCTGGGCCTTTAAAACACTAGCCAAAC TCTAATTAATTCTCAAATCACTGCCAGGAGTTCTTGCTCCTGGCTGCAGGCCCCAAGGTCTCCTTCTTG GGGTCACAAACAGCAGTAAGGAAGAGGAATATATAGCAACTCAGGGCCTGGGAATTGTGGGGCAATCCGTTCTTA GGGACTGGATACTTCTGGCTGGCTGAGTATAGTACTAGCTGCCTCCCCACCAGGTTCCGAGTAGTGTCTGAGACT CTGCTCTGCAGGGCCTAGGGTAGCGCTGGGAGTGTAGAAGTGGCCTGCCCTTAACTGTTTTCACTAAACAGCTTT TTCTAAGGGGAGAGCAAGGGGGAGATCTAGATTGGGTGAGGGGGACGGGGATGTCAGGGAGGCAAGTGTTGTTG TGTTACTGTGTCAATAAACTGATTTAAAGTT

 ${\tt AGACAGAGTCTCACTCTGCCGCCCAGGCTGGAGTGCAGTGGTGTGATCTGGGCTCACTGCAACCTCTGCCTCCTG}$ GGTTCAAGCGATTCTCCTGCTTCAGCCTCCTGAGTAGCTGGGATTACAGTGCGTCACCATGCCCGGCTAATTTTT GTATTTTTAGTGGAGATGGTGTTTCTCCATGTTGACCAGGCTAGTCTCAAACTCCTGACTTCAGGTGATTCACCC GCCTCAGCTTCCCAAAGTGCTGGGATTACAGGCACGAGCCATCATGCCCCGCCATCAGTTCAATTAAATCTAGAT ATCACATTCTTCCTATCCTTTTTTATTATACATGTCATGATATGGGATGTTGGTGGTAAATGTAACGTGGAGGAA CAAGACATATGTAGGTACACTCCTTGACTGCACACGACATGATTGGGCACCCCCAAGGTTCTGTGACTCCCCGAC CAGTGACCTGGAAATGCGCAATGGCCGGGGTAGAGGCAAACGCATGCGTCCCAACAGTAATACACCTGTCAATGA GACAGCCACAGCCTCTGACAGCAAAGGGACCAGTAACAGCAGCAAAACCCGGGCAGGAGCCAATAGCAAAGGCCG TCGGGGCAGCCAGAATTCTTCAGAGCACCGCCCACCTGCCAGCAGCACTTCTGAGGATGTCAAGGCCAGCCCTTC CTCAGCTAATAAGCGGAAAAACCAAACCCCTTTCAGACATGGAGCTGAATTCTAGCTCAGAGGACTCCAAAGGGAG  ${\tt CAAGCGTGTCCGTACTAATTCCATGGGCTCAGCCACTGGCCCCTTCCTGGGACAAAGGTAGAACCCACTGTTCT}$ TGGACTTAAGTACCACCAAGCTCATGCCCATACAGATGATGACAGCCAAGCCGGAAGCGGATGGGGACAGTGAGTA  $\tt CGGAGAGGAACCTATTCTCCATGCAGATCTTGGGAGCTGCAACGGTGCATCTGTCTCACAAAAAGGTTCCTTGTC$ TGATGGACCCTCAGTGATGGATGAAACAAGCAATGATGCCTTTGATTCTTTAGAAAGGAAGTGTATGG

 ${\tt MIGHPQGSVTPRPVTWKCAMAGVEANACVPTVIHLSMRQPQPLTAKGPVTAAKPGQEPIAKAVGAARILQSTAHL}\\ {\tt PAALLRMSRPALPQLISGKTNPFQTWS}$ 

 ${\tt MVRTKADSVPGTYRKVVAARAPRKVLGSSTSATNSTSVSSRKAENKYAGGNPVCVRPTPKWQKGIGEFFRLSPKDSEKENQIPEEAGSSGLGKAKRKACPLQPDHTNDEKE}$ 

 ${\tt TATACATACTGAAGCTACTTGCTGTACTATAGGAGACTCTGTCCTGTAGGATC{\tt ATGG}GACCATCCTAGTAGGGAAA}$ AGGATGAAAGACAACGGACAACTAAACCCATGGCACAAAGGAGTGCACACTGCTCTCGACCATCTGGCTCCTCAT TCAGATTAGGTAAAAATCTCTACACCAATGAATATGTAGCAATCAAACTGGAACCAATAAAATCACGTGCTCCAC AGCTTCATTTAGAGTACAGATTTTATAAACAGCTTGGCAGTGCAGGTGAAGGTCTCCCCACAGGTGTATTACTTTG GACCATGTGGGAAATATAATGCCATGGTGCTGGAGCTCCTTGGCCCTAGCTTGGAGGACTTGTTTGACCTCTGTG ACCGAACATTTACTTTGAAGACGGTGTTAATGATAGCCATCCAGCTGCTTTCTCGAATGGAATACGTGCACTCAA TACACATTATAGACTTTGGACTGGCCAAGGAATACATTGACCCCGAAACCAAAAAAACACATACCTTATAGGGAAC ACAAAAGTTTAACTGGAACTGCAAGATATATGTCTATCAACACGCATCTTGGCAAAGAGCAAAGCCGGAGAGATG ATTTGGAAGCCCTAGGCCATATGTTCATGTATTTCCTTCGAGGCAGCCTCCCCTGGCAAGGACTCAAGGCTGACA CATTAAAAGAGAGATATCAAAAAATTGGTGACACCAAAAGGAATACTCCCATTGAAGCTCTCTGTGAGAACTTTC CAGAGGAGATGGCAACCTACCTTCGATATGTCAGGCGACTGGACTTCTTTGAAAAACCTGATTATGAGTATTTAC GGACCCTCTTCACAGACCTCTTTGAAAAGAAAGGCTACACCTTTGACTATGCCTATGATTGGGTTGGGAGACCTA ATCGGCCATCACAACAGCAGCCTCTTCGAAATCAGAGCCTTAGGACTGTTACAGCTGAGCATTATGATGTTAACA GAATAGTAGCAGATGTAAAAAGCAGAATGTATCATCAGAGCGCCGAGGAGAGTGGGAAATTCAGCCCAGCCGGCA GACCAATACCTCATACCTAACGTCTCACTTGGCTGCAGACCGCCATGGGGGATCAGTGCAGGTGGTTAGCTCAAC CAATGGAGAGCTGAATGTTGATGATCCCACGGGAGCCCACTCCAATGCACCAATCACAGCTCATGCCGAGGTGGA GGTAGTGGAGGAAGCTAAGTGCTGCTGTTTCTTTAAGAGGAAAAGGAAGAAGACTGCTCAGCGCCACAAGTGACC  ${\tt AGTGCCTCCCAGGAGTCCTCAGGCCCTGGGGACTCTGACTCAATTGTACCTGCAGCTCCTGCCATTTCTCATTGG}$ AAGGGACTCCTCTTTGGGGGGGGGGGGTGGATATCCAAACTAAAAAGAAGAAAACAGATGCCCCCAGAAGGGGCCAGT TTCCTCCACTGCTTGCCCATAGGGCTGCCTGGTTGACTCTCCCATTGTTTACAGTGAAGGTGTCATTCACA

MDHPSREKDERQRTTKPMAQRSAHCSRPSGSSSSSGVLMVGPNFRVGKKIGCGNFGELRLGKNLYTNEYVAIKLE PIKSRAPQLHLEYRFYKQLGSAGEGLPQVYYFGPCGKYNAMVLELLGPSLEDLFDLCDRTFTLKTVLMIAIQLLS RMEYVHSKNLIYRDVKPENFLIGRQGNKKEHVIHIIDFGLAKEYIDPETKKHIPYREHKSLTGTARYMSINTHLG KEQSRRDDLEALGHMFMYFLRGSLPWQGLKADTLKERYQKIGDTKRNTPIEALCENFPEEMATYLRYVRRLDFFE KPDYEYLRTLFTDLFEKKGYTFDYAYDWVGRPIPTPVGSVHVDSGASAITRESHTHRDRPSQQQPLRNQSLRTVT AEHYDVNNSAIWHRGRGT

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## 4576/6881 FIGURE 4218

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#### 4578/6881 FIGURE 4220

TTCCCGCCACCGTGGCGCCCCCCGCGCTGTCTGTGAGGCGCCAGTTCCGGGGCGCTGCTCCCGTC GCTCTGAGGCTCGGGGTCCCCAGCTCCGCGTAAACTGCACGATTTCGCCCTCTGCTCAGCTCCCCTCTGCCCCCT TTGCATTCTGATTGGGAACACTGGGATCATTTTCATCATGCCGACAGTGGTGGTAATGGATGTATCCCTTTCCAT GACCCGACCTGTGTCTATTGAGGGGTCCGAGGAATACCAGCGTAAGCACCTAGCAGCCCATGGTTTAACGATGCT GTTTGAGCACATGGCCACAAATTACAAGCTTGAATTTACAGCACTTGTGGTTTTTTCATCACTTTGGGAGTTGAT GGTCCCCTTCACGAGAGATTATAATACCCTACAGGAAGCACTAAGTAATATGGATGATTATGACAAAACCTGCTT GGAGTCTGCATTAGTTGGTGTTTGCAATATCGTTCAGCAAGAATGGGGTGGTGCAATTCCTTGCCAGGTTGTCCT GGTGACAGACGGCTGTCTTGGCATTGGTAGAGGGTCACTGCGACATTCCCTAGCCACTCAAAATCAACGAAGTGA GAGCAACAGGTTTCCACCACCTTTTCCTTTCCCATCTAAGTTATATCATGTGCATGGCGAATTTGGAGGAGCT CCAGAGCACCGATTCCTTGGAATGCCTTGAACGTCTCATAGATTTAAACAATGGTGAAGGGCAGATTTTTACTAT TGATGGCCCCTGTGCTTGAAGAATGTACAGTCTATGTTTGGAAAACTGATAGATTTGGCATATACGCCTTTCCA TGCTGTTCTCAAGTGTGGCCACCTAACTGCTGATGTACAAGTCTTCCCCAGGCCAGAACCTTTTGTTGTAGATGA AGAAATTGATCCTATCCCTAAAGTCATTAACACAGATTTGGAAATAGTGGGATTTATTGATATAGCTGATATTTC AAGTCCCCCAGTTCTGTCCAGACATCTGGTCTTACCTATAGCACTTAACAAAGAAGGTGATGAGGTGGGTACTGG CATCACTGATGACAATGAAGATGAAAATTCAGCCAATCAGATTGCAGGCAAAATACCCAACTTTTGTGTCCTGCT CCATGGTAGCCTAAAAGTGGAAGGAATGGTAGCGATTGTTCAATTAGGTCCTGAATGGCATGGAATGCTCTACTC  ${\tt CCAAGCTGACAGCAAGAAGAAATCAAACCXTCATGATGTCTCTTTTGAGCCTGGCCCAGAACCTCTCCCATGGC}$ TAGGGAAAATGGCACAGTTGGGTCCTATTTCAGATGCTAAAGAAAACCCTTATGGCGAGGATGACAATAAGAGTC CATTCCCCCTGCAGCCCAAAAACAAACGCAGTTATGCCCAGAATGTGACTGTCTGGATCAAACCCAGCGGCCTGC AGACAGATGTACAGAAGATTTTAAGAAATGCAAGGAAACTACCTGAAAAAACACAGACATTCTATAAGGAGCTGA ACCGTTTGCGAAAGGCCGCTCTAGCCTTTGGTTTCCTGGACCTGCTGAAAGGGGTGGCTGACATGCTGGAAAGGG AATGCACACTGCTGCCTGAGACAGCCCACCCTGATGCTGCATTCCAGCTGACCCATGCTGCCCAGCAGCTCAAGC TGGCCAGTACCGGCACCTCTGAGTATGCCGCTTATGACCAGAACATCACACCTTTGCACACGGACTTCTCTGGGA GCAGCACTGAAAGAATTTGAAACTGACTTTTGGAGCTTTCCTTCTTTTTTCATTTCAACTGAAAATGCTTTAGGT AAAAACCTTTCCAGTATGTTCACCTCTAGAATAGCCACCCAAAGACCTTCCTGAGGCTGCGTCAGAAGCACCACT TGCTGTTTTGAATGACTCTACTAGTATGAGAAGGATGTGAAGGTGGTTGGCTGGTTGGGCTTTAACTTCCTGGGA TTCATAATTTTTAAGCTTGGAAGATAGCTGCTGTTCCCATGATGGCCACATTTCCTGAGAAGCTTGAATGACTGA TGAGCATAGAGCACCCCTGCCTTCCTCAGGAAACCTGACCGGCAGGGGCTCTCTGGCTTCCTGAAAGCTTCACCT CTTCCCTCGTTTATATCTCAACTGTAAGGGCATTTTCAAGCTTCTGTTCATGGAATGAGCAACTCAGACTGTCTG GAGCTTGCTGAGTACAAACACCACCACTAAGTTTCAGAACTTTCCTTAGAACTTGGGCAAAATGTGGTGGTAA CTCTTAAGTGCTTTTGGTATCTCTTGAGATTCTAACTTTTAAAGAGCAACCATTAATGTGTAAAATGATTCCTAT TATTCAAGGTTTTTTTTTAATGAAAATAAAATATTTGATTTTCTAG

PCT/US2003/028547

## 4579/6881 FIGURE 4221

GAGCGTGGGGTATCTCGAGGTGCCGGGTTGCAGGCGCTCAGGAGCGCTAGGGTTTGAGGCCTGCTTTCTGCTCGC GCCAGCAGAGCACTACCTGAGGCAGCGAGGCGAGCCTAGCCTCCCCGCGCCCTGGGCAGTGTGGCCATGG AGAATCAGGTGTTGACGCCGCATGTCTACTGGGCTCAGCGACACCGCGAGCTATATCTGCGCGTGGAGCTGAGTG ACGTACAGAACCCTGCCATCAGCATCACTGAAAACGTGCTGCATTTCAAAGCTCAAGGACATGGTGCCAAAGGAG ACAATGTCTATGAATTTCACCTGGAGTTCTTAGACCTTGTGAAACCAGAGCCTGTTTACAAACTGACCCAGAGGC TTTTGGCTCCTGACTTTGATCGTTGGCTGGATGAATCTGATGCGGAAATGGAGCTCAGAGCTAAGGAAGAAGAGC GCCTAAATAAACTCCGACTGGAAAGCGAAGGCTCTCCTGAAACTCTTACAAACTTAAGGAAAGGATACCTGTTTA TGTATAATCTTGTGCAATTCTTGGGATTCTCCTGGATCTTTGTCAACCTGACTGTGCGATTCTTGTATCTTGGGAA AAGAGTCCTTTTATGACACATTCCATACTGTGGCTGACATGATGTATTTCTGCCAGATGCTGGCAGTTGTGGAAA  $\verb|CTATCAATGCAGCAATTGGAGTCACTACGTCACCGGTGCTGCCTTCTCTGATCCAGCTTCTTGGAAGAAATTTTA| \\$ TTTTGTTTATCATCTTTGGCACCATGGAAGAAATGCAGAACAAAGCTGTGGTTTTCTTTGTGTTTTATTTGTGGA GTGCAATTGAAATTTTCAGGTACTCTTTCTACATGCTGACGTGCATTGACATGGATTGGAAGGTGCTCACATGGC TTCGTTACACTCTGTGGATTCCCTTATATCCACTGGGATGTTTTGGCGGAAGCTGTCTCAGTGATTCAGTCCATTC CAATATTCAATGAGACCGGACGATTCAGTTTCACATTGCCATATCCAGTGAAAATCAAAGTTAGATTTTCCTTTT TTCTTCAGATTTATCTTATAATGATATTTTTAGGTTTATACATAAATTTTCGTCACCTTTATAAACAGCGCAGAC GGCGCTATGGACAAAAAAGAAAAAGATCCACTAAAAAGAATTTAGATGGCTTCTTGCCAGTTTGAGCCTAA TCTGATTCTTACAGTTTTACCTTCTTGAACCAATGTAAAAGTTTTTTAATGTTAAATGATTAAATTCTCAGTGA GGCTATCTTCCCCCAGTAACATTCCTGAATTTACTGTTATCTTATTGTAGTACTTGCATGACATGGATTC CTGATATCTGATGAGGGGTTCATTCTTGTGTATTCAGTTAATGACACCAAAAGGCTCAGCCCACCCCAACCCTAT GTTCTTACAGTTGAGATTTGTTCTTTTCAGCTATTGCTTGTGAAAAAAAGCAAGACTATGTCACTCTATAGAAGG CTGTTAAAGTGACTCAGGCA

#### 4580/6881 FIGURE 4222A

GGCACGAGGTCACCTGCCGTCCAGGTATCATCCTAGTCTTCCCTCCGTCTCTGGGATGGGAAACTCTTGTCTAGT GATGTGACTCATTACGTGATCCCAGACTGGAAAGTTGTTCAAGATTATCTTGAGATCCTTGAGTTTCCTGAGTTG AAGGGAATTATTTCATGCAGACAGCTTGTCAAGCTGTGCAGCATCAAAGAGGCAGGAGACAGTATAACAAACTG CGAAACCTGCTGAAGGATGCGCGTCATGATTGCATTCTCTTTGCTAATGAATTCCAGCAATGCTGCTATCTGCCA CGGGAAAGAGGAGAGTCCATGGAGAAGTGGCAGACCAGGAGCATATACAACGCAGCTGTTTGGTACTATCATCAC TGCCAGGACAGGATGCCAATTGTTATGGTGACAGAAGATGAAGAGGCCAATTCAGCAGTATGGAAGTGAAACAGAA GGAGTATTCGTGATTACTTTCAAGAATTACCTGGACAATTTCTGGCCTGATTTAAAAGCTGCCCACGAGCTTTGT GATTCTATCCTTCAGTCTCGACGGGAGAGAGAGAGAGGAGTCAGGAGGGCCATGGGAAGGAGTACCCAGAACAT AGAGCCCAAATAGAAGCTTTTGTTCGACTTCAAGGAGCCAGCAGTAAAGATTCAGATTTAGTCAGTGACATCCTA ATCCACGGGATGAAGGCTCGAAACCGCTCAATTCATGGAGATGTGGTAGTTGTGGAGCTGCTTCCTAAAAATGAA TGGAAAGGAAGAACCGTAGCCCTGTGTGAGAATGACTGTGACGACAAGGCTTCGGGCGAGTCCCCAAGTGAGCCC ATGCCTACAGGTCGAGTGGTGGCCATACTTCAGAAGAACTGGCGGGATTATGTGGTGACATTTCCGTCCAAAGAA GAGGTCCAATCTCAGGGCAAAAATGCTCAGAAAATCCTGGTTACACCTTGGGATTACAGAATTCCAAAATTCGA ATTAGCACTCAGCAAGCAGAAACCCTCCAGGACTTCAGGGTGGTCGTGCGCATCGATTCCTGGGAGTCAACATCT GTGTATCCAAACGGACATTTTGTGCGTGTTTTAGGAAGAATCGGAGATCTGGAAGGGGAAATTGCAACCATCCTG GTGGAAAACAGTATTTCAGTTATTCCTTTCTCAGAAGCTCAGATGTGTGAGATGCCAGTAAACACACCAGAAAGT CCCTGGAAGGTGAGTCCTGAAGAGAGAAAAACGTAAAGACTTGAGGAAAAGCCATCTCGTATTCAGCATTGAC CCCAAAGGTTGTGAAGATGTGGATGACACTCTCAGTCAGAACCTTAAATAATGGCAACCTGGAACTTGGGGTC CACATCGCAGATGTAACACACTTTGTGGCACCAAATTCTTACATTGATATTGAAGCTAGAACAAGGGCCACCACT TATTATCTAGCAGATCGTCGCTATGACATGCTGCCTTCCGTCCTCAGTGCAGATTTGTGTTCCCTTCTGGGAGGC GTTGATAGGTATGCTGTAAGCATCATGTGGGAACTGGATAAAGCCTCTTATGAAATTAAGAAAGTGTGGTATGGC GTTGATGATATTCCAGAATTCAAAGACTTGGATGAGAAGACCAGACAAGCCAAGCTGGAGGAGTTGGTGTGGGCA ATTGGAAAGCTGACCGACATAGCTCGCCATGTCAGAGCTAAACGAGACGGATGTGGTGCCCTGGAACTGGAAGGG GTAGAGGTTTGCGTACAGCTAGATGACAAAAAGAACATTCACGACCTCATCCCCAAGCAGCCCCTGGAAGTCCAC GAGACAGTGGCTGAATGCATGATCCTGGCCAACCACTGGGTCGCCAAAAAGATCTGGGAGAGCTTCCCTCATCAG GCCTTGCTGCGCCAGCACCTCCTCCACACCAGGAGTTCTTTTCAGAACTCCGGGAATGTGCTAAAGCCAAAGGC TTCTTCATAGATACACGGTCCAATAAAACACTGGCTGATTCTCTGGATAATGCGAACGACCCCCACGATCCCATT GTGAACAGGCTACTGCGCTCCATGGCCACGCAGGCCATGTCGAATGCTCTGTACTTCTCCACCGGATCCTGTGCG GAGGAGGAGTTCCATCATTACGGTCTTGCATTAGATAAATATACCCACTTTACTTCTCCAATAAGAAGATATTCA GATATTGTAGTACACCGCTTGTTAATGGCAGCCATTTCAAAAGATAAGAAAATGGAAATTAAGGGAAATCTGTTC AGCAACAAAGATCTTGAGGAATTATGCAGACATATCAACAACAGAAACCAAGCAGCACAGCATTCTCAGAAGCAG TCTACTGAGCTCTTCCAGTGCATGTACTTCAAAGACCAAAGACCCTGCCACCGAGGAGCGTTGCATATCTGACGGA GTTATTTATTCAATTAGAACAATGGTGTGCTTCTATTTATACCAAGGTTTGGGATTAAAGGTGCTGCTTATCTA AAAAATAAAGATGGTTTAGTCATCTCATGTGGCCCAGATAGCTGTTCTGAATGGAAACCAGGATCCCTTCAACGA AGAATATCCATACAGGCCTCACGTTGCCATTCTGATACAATCAGACTTGAAATAATTAGTAACAAACCATACAAG GTGGAAGAGCTCAGCTTGCCCAAGAAGTCAAAGTAAACATCATTCAGGAGGAATATCAAGAATATCGCCAAACA **AAGGGAAGGACCTATACACACTTCTAGAGGAGATACGGGACCTAGCTCTCCTGGATGTTTCAAACAATTATGGA** ATATGAGAGGCTCTTACTTCACTAAGAGCTGTCATATGTGAATGTTTTACAGTCTTTTCAAACTTAACATTTAAT GTGTGTCACTCAGTGCTCTAGTCGATCAGGACTGGGTAGCTATTTCGCATATATGTAAAATGTTCTCAGCCGGGC CATCCTGGCTAACACGGTGAAACCCAGTCTCTACTAAAAATACAAAAATTAGCCCGGCGTGGTGGCATGCGCCTG TAGTCCCAGCTACTTGGGAGGCTGAAGCAGGAGAATTGCCTGAACCCAGGAAGAGGAGGTTGCAGTGAGCCGAGA CTCTCATTCATTAAAGTTGCATTAAATAAAGTATAATTAGGTCACTATGGAAACAGTTTTCAGTAATGAGTGGAC

# 4581/6881 FIGURE 4222B

MQTACQAVQHQRGRRQYNKLRNLLKDARHDCILFANEFQQCCYLPRERGESMEKWQTRSIYNAAVWYYHHCQDRM PIVMVTEDEEAIQQYGSETEGVFVITFKNYLDNFWPDLKAAHELCDSILQSRRERENESQESHGKEYPEHLPLEV LEAGIKSGRYIQGILNVNKHRAQIEAFVRLQGASSKDSDLVSDILIHGMKARNRSIHGDVVVVELLPKNEWKGRT VALCENDCDDKASGESPSEPMPTGRVVGILQKNWRDYVVTFPSKEEVQSQGKNAQKILVTPWDYRIPKIRISTQQ AETLQDFRVVVRIDSWESTSVYPNGHFVRVLGRIGDLEGEIATILVENSISVIPFSEAQMCEMPVNTPESPWKVS PEEEQKRKDLRKSHLVFSIDPKGCEDVDDTLSVRTLNNGNLELGVHIADVTHFVAPNSYIDIEARTRATTYYLAD RRYDMLPSVLSADLCSLLGGVDRYAVSIMWELDKASYEIKKVWYGRTIIRSAYKLFYEAAQELLDGNLSVVDDIP EFKDLDEKSRQAKLEELVWAIGKLTDIARHVRAKRDGCGALELEGVEVCVQLDDKKNIHDLIPKQPLEVHETVAE CMILANHWVAKKIWESFPHQALLRQHPPPHQEFFSELRECAKAKGFFIDTRSNKTLADSLDNANDPHDPIVNRLL RSMATQAMSNALYFSTGSCAEEEFHHYGLALDKYTHFTSPIRRYSDIVVHRLLMAAISKDKKMEIKGNLFSNKDL EELCRHINNRNQAAQHSQKQSTELFQCMYFKDKDPATEERCISDGVIYSIRTNGVLLFIPRFGIKGAAYLKNKDG LVISCGPDSCSEWKPGSLQRFQNKITSTTTDGESVTFHLFDHVTVRISIQASRCHSDTIRLEIISNKPYKIPNTE LIHQSSPLLKSELVKEVTKSVEEAQLAQEVKVNIIQEEYQEYRQTKGRSLYTLLEEIRDLALLDVSNNYGI

GAACCGCCCGCGCGGGAATTTGCGGCGGCCTCCGCCGGGGCAGCCGAGCTGAACCGGTCTCTTCCTCGGAAAG AGGCGCGCAGCTGGGCGCCTCCTTCCTGCAGGCCAGGCATGGCTCTGTGAGCGCTGATGAGGCTGCCCGCACGGC TCCCTTCCACCTCGACCTCTGGTTCTACTTCACACTGCAGAACTGGGTTCTGGACTTTGGGCGTCCCATTGCCAT GCTGGTATTCCCTCTCGAGTGGTTTCCACTCAACAAGCCCAGTGTTGGGGACTACTTCCACATGGCCTACAACGT CTACCAGCACCACCTGTCTGTCCGTGAGAACCCCATCATCAAGAATCTCAAGCCGGAGACGCTGATCGACTCCTT TGAGCTGCTCTACTATTATGATGAGTACCTGGGTCACTGCATGTGGTACATCCCCTTCTTCCTCATCCTCATCAT GTACTTCAGCGGCTGCTTTACTGCCTCTAAAGCTGAGAGCTTGATTCCAGGGCCTGCCCTGCTCCTGGTGGCACC CAGTGGCCTGTACTACTGGTACCTGGTCACCGAGGGCCAGATCTTCATCTTCATCTTCACCTTCTTCGCCAT GCTGGCCCTCGTCCTGCACCAGAAGCGCAAGCGCCTCTTCCTGGACAGCAACGGCCTCTTCCTCCTCCTT CGCACTGACCCTCTTGCTTGTGGCGCTCTGGGTCGCCTGGCTGTGGAATGACCCTGTTCTCAGGAAGAAGTACCC  ${\tt GGGTGTCATCTACGTCCCTGAGCCCTTGGGCTTTCTACACCCTTCACGTCAGCAGTCGGCAC} {\color{red}{\textbf{TGA}}} {\tt GTCCCTGGCAC}$ ATATGTGTGCGCAGAGTGCATCATTTTCAGACTCTACTATTTCCGTCAAGTTTCTGTTTTGATTTGGATCATCTCA GGATCGGATTCTGTTTTAGAGTGTTTCTGGGCCAGGATCCGGGCCCCTGCCCTCCTCTGCACCTGACCACACTCC AGGAGGGGACCTGGTGTCACCTGCCCACCACCTGGCTCATCCCTCAGGCCCACCCTGACCCTACATTACATAG GTTACGTCAGCCTACTGTGGCTGTTGAGCAAAGCATTTCTCCTTTCTGGGCCTCATTTGCACTAGATGGGCCTGT GGTCCCAAAGTAGGTCAGTAGGTTGGGGTTGCTGACACCCCTTGGGTGCAGCTTTGGGACAGATGAGTGGCTCTG TCCTGTCACTGCCCTGCCTGGGGGGCTATGTGCACTCCAGACCCCTGCCCAGGCTCAGGCCCATGAGGTA TGGAGACACCCTGGCCCCAGGAGCTGGAGGCACCGCCCACTCCCCTGGCATTCCAGCTTTGCAGGTGACCCTCC TCTACCCAAAGCTCTGTCCCCTGCTCCCACTCCAGAAGAACTGCGGCACGTGCTTCGGGCAGCCTAGCCACAGG TCAAAGCCTTTACAAGGTACTGGGCCCAGAGGCTTTGCCTTGACAGAGTGGCCCAGGGTTTCAAGGGAGGAGAA 

 $\label{thm:policy} $$ MEATRRQHLGATGGPGAQLGASFLQARHGSVSADEAARTAPFHLDLWFYFTLQNWVLDFGRPIAMLVFPLEWFP LNKPSVGDYFHMAYNVITPFLLKKLIERSPRTLPRSITYVSIIIFIMGASIHLVGDSVNHRLLFSGYQHHLSVRE NPIIKNLKPETLIDSFELLYYYDEYLGHCMWYIPFFLILFMYFSGCFTASKAESLIPGPALLLVAPSGLYYWYLV TEGQIFILFIFFFFAMLALVLHQKRKRLFLDSNGLFLFSSFALTLLLVALWVAWLWNDPVLRKKYPGVIYVPEPW AFYTLHVSSRH$ 

GGCACGAGGCGCTCTTGCGGGAGCGTTCCGCATCGCCCCGGGGGCCCCTACGCGAGGATCTCCGGGGCCCGTTGGC  ${\tt AGCGCCTGGCACTTCTGAGCTCGGCGGACGAGGGCCTGCAGGTTTCCTCCAGTCAGGGACGGCGAAGGGCGGAAA}$ GCGCAGGAGGAGGCAGTGTTAGGCCTTAGGCCGGGTGGGCCGGGTCAGGAGAGACGCGCCCATCTTTCGCCATCC GGGGTGCGCGAGGTCCTCTCGGGACCCGGCCGCCGACCCGTAGCTCGGGCACGCGCCTGTCGCATCCCGCAGGAA GGAGGGTCCGGCCTGAGGCCCGGGGCGCGTCCGCCATGGAGATCCCCTCGGTCCAGGGCCGGCGCCTGGGACC TGGCGGGCGGCCTGACCGCCTTCCTCCCTGCGCGGGCTGGGTCGCGGACGTGCCCTTCGCGGCACTCGGCCTCC GGAGGGCAGCGCTCCACGCCCCTCATCATCGCAGCCCGCAATGGACACGCAAAGGTGGTACGCTTGCTCTTAGAA CATTACCGGGTGCAGACTCAGCAGGCTCGGCACCGTCCGCTTCGACGGGTATGTCATTGATGGTGCCACTGCTCTT TGGTGTGCAGCTGGAGCAGGACATTTTGAAGTTGTTAAACTTCTAGTCAGCCATGGAGCCAACGTGAACCATACC ACAGTAACTAATTCAACCCCCTGCGGGCAGCATGCTTTGATGGCAGACTGGACATTGTGAAAATACTTGGTTGAA AATAATGCCAACATCAGCATTGCCAACAATATGACAACACCTGCCTAATGATTGCGGCATATAAGGGACACACT GATGTGGTCAGATACCTTTTAGAACAACGTGCTGATCCCAATGCCAAAGCACATTGTGGAGCCACAGCATTGCAC TTTGCAGCTGAAGCTGGGCACATAGATATTGTGAAAGAGCTGATAAAATGGCGTGCTGCTATAGTAGTGAATGGC CATGGGATGACGCCATTGAAAGTAGCTGCCGAAAGCTGTAAAGCTGATGTCGTAGAACTGTTACTCTCATGCT GATTGCGACCGAAGAAGTCGGATTGAAGCTTTGGAACTCTTGGGTGCCTCCTTTGCAAATGACCGTGAGAACTAT GACATCATAAAGACATACCACTATCTATATTTAGCCATGTTAGAGAGGGTTCCAAGATGGTGATAACATTCTCGAA AAAGAGGTTCTTCCACCAATCCATGCTTATGGGAATAGAACTGAATGTAGAAATCCTCAGGAACTGGAGTCCATT CGGCAAGACAGAGATGCTCTTCATATGGAAGGCCTTATAGTTCGGGAACGGATTTTAGGTGCTGACAATATTGAT GTTTCTCATCCCATCATTTACAGAGGAGCTGTTTATGCGGATAATATGGAATTTGAGCAGTGTATCAAGTTGTGG CTTCATGCCCTGCACCTCAGACAAAAAGGTAACAGGAACACCCACAAGGATCTTCTTCGATTTGCTCAAGTTTTC TCACAAATGATACATTTGAATGAAACTGTGAAGGCCCCAGACATAGAATGTGTTTTGAGATGCAGTGTTTTTGGAA ATAGAACAAAGTATGAACAGAGTGAAAAATATTTCAGATGCTGATGTCCACAATGCTATGGACAATTATGAATGT AATCTCTATACCTTTCTGTATTTAGTGTGCATCTCTACCAAAACACAGTGCAGCGAAGAAGATCAGTGCAAAATT AACAAGCAGATCTACAACCTGATTCACCTTGATCCCAGAACTCGTGAAGGTTTCACCTTGCTGCATCTGGCTGTC AACTCCAATACTCCAGTTGATGATTTCCACACCAATGACGTCTGCCAGCTTTCCAAATGCACTTGTCACAAAGCTC ATGACGAATAAACAGAATAAGACTCCGCTAGACAAAAGTACAACTGGGGTATCTGAAATACTGCTTAAAACTCAA ATGAAGATGAGTCTCAAGTGCCTGGCTGCCCGAGCAGTTCGGGCTAATGACATTAACTACCAAGACCAGATCCCC  ${\tt AGAACTCTTGAAGAGTTTGTTGGATTTCAT} \underline{{\tt TAA}}{\tt GTGACTGGATATGTAAAGTCGTTTAATGTGGTGCTAAAAAGT}$ 

MEGLAGYVYKAASEGKVLTLAALLINRSESDIRYLLGYVSQQGGQRSTPLIIAARNGHAKVVRLLLEHYRVQTQQ
TGTVRFDGYVIDGATALWCAAGAGHFEVVKLLVSHGANVNHTTVTNSTPLRAACFDGRLDIVKYLVENNANISIA
NKYDNTCLMIAAYKGHTDVVRYLLEQRADPNAKAHCGATALHFAAEAGHIDIVKELIKWRAAIVVNGHGMTPLKV
AAESCKADVVELLLSHADCDRRSRIEALELLGASFANDRENYDIIKTYHYLYLAMLERFQDGDNILEKEVLPPIH
AYGNRTECRNPQELESIRQDRDALHMEGLIVRERILGADNIDVSHPIIYRGAVYADNMEFEQCIKLWLHALHLRQ
KGNRNTHKDLLRFAQVFSQMIHLNETVKAPDIECVLRCSVLEIEQSMNRVKNISDADVHNAMDNYECNLYTFLYL
VCISTKTQCSEEDQCKINKQIYNLIHLDPRTREGFTLLHLAVNSNTPVDDFHTNDVCSFPNALVTKLLLDCGAEV
NAVDNEGNSALHIIVQYNRPISDFLTLHSIIISLVEAGAHTDMTNKQNKTPLDKSTTGVSEILLKTQMKMSLKCL
AARAVRANDINYQDQIPRTLEEFVGFH

 ${\tt MASVSELACIYSALILHDDEVTVTEDKINALIKAAGVNVEPFWPGLFAKALANVNIGSLICNVGAGGPAPAAGAAPAGGPAPATAAPAEEKKVEAKKEESEESDDDMGFGLFD}$ 

### 4589/6881 FIGURE 4230A

CGCAGGTGGCAGGCAGGTGGGGCTGGTACAGCCCGCGCCCTCTGCTGCAGCCGCTGCCGTCTACTCCTTGCGC GCTGGCACTCCGCAGCCTTTAAGGTTCGCGCGGGGGCCAGGCAAGAGTTAGCCATGAAGAGCCTCAAGTCCCGCC TGAGGAGGCAGGACGTGCCCGGCCCCGCGTCGTCTGGCGCCGCCGCCGCCGCGCATGCAGCAGATTGGAATA AATATGATGACCGATTGATGAAAGCAGCAGAAAGGGGGGGATGTAGAAAAAGTGACCTCAATCCTTGCTAAAAAGG GGGTCAATCCAGGCAAACTAGATGTGGAAGGCAGATCTGTCTTCCATGTTGTGACCTCAAAGGGGAATCTTGAGT GTTTGAATGCCATCCTTATACÁTGGAGTTGATATTACAACCAGTGACACTGCAGGGAGAAATGCTCTTCACCTGG CTGCTAAGTATGGACATGCATTGTGCCTACAAAAACTTCTACAGTACAATTGTCCCACTGAGCATGCAGACCTGC AGGGAAGAACTGCACTTCACGATGCCGCAATGGCAGATTGTCCTTCTAGCATACAGCTGCTTTGTGACCATGGGG CCTCTGTGAATGCCAAAGATGTAGACGGGCGGACACCACTTGTTCTGGCTACTCAGATGAGTAGGCCAACAATAT GCCATGATAGTTCTTACTATGCAAGAATTGGTGACAATCTGGACATTCTAACCTTGTTGAAGACTGCATCGGAAA ATACCAACAAGGGAGAACTTTGGAAGAAAGGGCCATCTTTGCAACAGCGAAATTTGACACACATGCAAGATG AAGTAAATGTGAAGTCACATCAGAGGGAGCATCAAAATATTCAGGATTTGGAGATTGAAAATGAAGATTTGAAAG AGAGGTTGAGAAAAATTCAGCAAGAACAAAGAATACTTTTGGATAAAGTCAATGGTTTACAGTTACAGCTGAATG AACATGAAGAAAGCTTAAGGACTATTGAGGCTCTGAAAAATAGATTTAAATATTTTTGAGAGTGATCATTTAGGAT CAGGAAGTCATTTCAGTAACCGAAAAGAAGATATGCTTCTTAAACAAGGTCAGATGTATATGGCAGACTCACAGT GTACTTCCCCAGGTATACCAGCCCATATGCAAAGCAGATCTATGTTAAGACCTCTGGAACTATCTTTACCCAGTC AAACGTCATACTCTGAAAATGAAATTTTAAAGAAAGAGTTAGAAGCAATGCGAACTTTCTGTGAGTCAGCAAAAC AAGACCGACTGAAGCTCCAAAATGAACTGGCACACAAAGTGGCAGAATGCAAAGCTTTAGCATTAGAATGTGAAA GGGTCAAGGAGGATTCAGATGAACAGATAAAGCAATTAGAAGATGCATTAAAAGATGTGCAGAAGAGGATGTATG AGTCAGAAGGTAAAGTTAAACAAATGCAGACCCATTTTCTTGCCCTTAAAGAACACTTAACAAGTGAAGCAGCCT CAGGGAATCACAGACTAACCGAGGAACTGAAGGATCAGTTGAAAGACTTGAAAGTAAAATATGAAGGTGCTTCAG CAGAAGTGGGGAAATTAAGAAACCAAATCAAACAAAATGAGATGATAGTAGAAGAGTTTAAGAGGGATGAAGGCA AGCTGATAGAAGAAAATAAGCGATTACAGAAGGAACTTAGTATGTGTGAAATGGAGCGAGAGAAGAAAGGAAGAA AGGTCACAGAGATGGAAGGCCAGGCAAAAGAATTGTCAGCGAAGTTGGCCCTTTCCATTCCAGCTGAAAAATTTG AAAACATGAAGAGCTCATTATCAAATGAAGTGAATGAGAAAGCAAAAAAATTAGTAGAAATGGAAAGAGAACATG AAAAATCACTTAGTGAAATTAGACAGTTAAAGAGAGAACTTGAGAATGTTAAGGCCAAGCTTGCTCAGCACGTCA AACCAGAGGAACATGAACAGGTTAAGAGCAGATTAGAACAGAAATCAGGAGAACTTGGGAAGAAGATCACTGAGT TAACATTGAAAAATCAGACACTACAAAAGGAAATTGAAAAAGTTTATTTGGATAATAAGCTCCTCAAGGAGCAAG ATGCAATTATTGATGATCTTAATAGAAAGCTTTTAGATGTAACACAAAAATATACAGAAAAGAAGTTGGAAATGG AGAAATTGCTACTGGAAAATGACAGCTTAAGTAAGGATGTAAGCCGCCTAGAAACTGTGTTTGTACCTCCTGAGA AACATGAAAAAGAGATAATAGCTCTGAAATCCAATATTGTTGAACTTAAGAAACAGCTGTCTGAACTTAAGAAAA AATGTGGTGAAGACCAGGAGAAAATACACGCTCTCACATCTGAAAACACTAACTTGAAGAAGATGATGAGTAATC AGTATGTGCCAGTTAAAACCCATGAAGAGGTTAAAATGACACTGAATGACACGTTAGCCAAAACTAACAGAGAAT TATTAGATGTGAAGAAAAATTTGAAGATATAAATCAGGAATTTGTAAAAATAAAAGATAAGAATGAAATATTAA AAAGAAACCTGGAAAACACTCAGAACCAAATAAAAGCTGAGTACATCAGCCTGGCAGAGCACGAGGCAAAGATGA GCTCGCTAAGTCAGAGCATGAGAAAGGTGCAGGATAGTAATGCTGAAATCTTGGCCAACTACAGAAAAGGCCAAG AAGAGATTGTGACACTGCATGCCGAAATTAAAGCCCAGAAGAAGGAGCTCGACACAATACAAGAATGCATTAAGG TAAAGAAGGAGATTTTTACCCTTCAGAAAGATTTGAGAGATAAGACAGTTCTCATTGAGAAGTCTCATGAAATGG AGAATGTGAAAGAGAAGCTAGTAGAAGAAAATGCCAAACAGACTTCTGAGATACTTGCAGTGCAAAAATCTTTTGC **AAAAACAACATGTTCCATTGGAACAGGTTGAGGCTCTGAAAAAATCTCTTAATGGCACAATTGAAAATCTAAAGG** AAGAACTGAAGAGTATGCAAAGGTGTTACGAGAAAGAGCAGCAGACAGTGACCAAACTGCATCAATTGTTGGAGA

# 4590/6881 FIGURE 4230B

MKSLKSRLRRQDVPGPASSGAAAASAHAADWNKYDDRLMKAAERGDVEKVTSILAKKGVNPGKLDVEGRSVFHVV TSKGNLECLNAILIHGVDITTSDTAGRNALHLAAKYGHALCLQKLLQYNCPTEHADLQGRTALFLKAMADCPSSI QLLCDHGASVNAKDVDGRTPLVLATOMSRPTICOLLIDRGADVNSRDKQNRTALMLGCEYGCRDAVEVLIKNGAD ISLLDALGHDSSYYARIGDNLDILTLLKTASENTNKGRELWKKGPSLQQRNLTHMQDEVNVKSHQREHQNIQDLE IENEDLKERLRKIQQEQRILLDKVNGLQLQLNEEVMVADDLESEREKLKSLLAAKEKQHEESLRTIEALKNRFKY FESDHLGSGSHFSNRKEDMLLKOGOMYMADSOCTSPGIPAHMOSRSMLRPLELSLPSOTSYSENEILKKELEAMR TFCESAKQDRLKLQNELAHKVAECKALALECERVKEDSDEQIKQLEDALKDVQKRMYESEGKVKQMQTHFLALKE HLTSEAASGNHRLTEELKDOLKDLKVKYEGASAEVGKLRNOIKQNEMIVEEFKRDEGKLIEENKRLQKELSMCEM EREKKGRKVTEMEGQAKELSAKLALSIPAEKFENMKSSLSNEVNEKAKKLVEMEREHEKSLSEIRQLKRELENVK AKLAQHVKPEEHEQVKSRLEQKSGELGKKITELTLKNQTLQKEIEKVYLDNKLLKEQAHNLTIEMKNHYVPLKVS EDMKKSHDAIIDDLNRKLLDVTQKYTEKKLEMEKLLLENDSLSKDVSRLETVFVPPEKHEKEIIALKSNIVELKK QLSELKKKCGEDQEKIHALTSENTNLKKMMSNQYVPVKTHEEVKMTLNDTLAKTNRELLDVKKKFEDINQEFVKI KDKNEILKRNLENTQNQIKAEYISLAEHEAKMSSLSQSMRKVQDSNAEILANYRKGQEEIVTLHAEIKAQKKELD TIQECIKVKYAPIVSFEECERKFKATEKELKDQLSEQTQKYSVSEEEVKKNKQENDKLKKEIFTLQKDLRDKTVL IEKSHEMERALSRKTDELNKQLKDLSQKYTEVKNVKEKLVEENAKQTSEILAVQNLLQKQHVPLEQVEALKKSLN GTIENLKEELKSMQRCYEKEQQTVTKLHQLLENQKNSSVPLAEHLQIKEAFEKEVGIIKASLREKEEESQNKMEE VSKLQSEVQNTKQALKKLETREVVDLSKYKATKSDLETQISSLNEKLANLNRKYEEVCEEVLHAKKKEISAKDEK ELLHFSIEQEIKDQKERCDKSLTTITELQRRIQESAKQIEAKDNKITELLNDVERLKQALNGLSQLTYTSGNPTK RQSQLIDTLQHQVKSLEQQLADADRQHQEVIAIYRTHLLSAAQGHMDEDVQEALLQIIQMRQGLVC

CCCAGTCCGGCGGGGGGCCCGGGCCCAAGACGGCGGTGCAGATCCGCGTCGCCATCCAGGAGGCCGAGG ACGTGGACGAGTTGGAGGACGAGGAGGGGGGGGGGGGACCCGGGGACCCGGCCCGGTACCTCAGCC CCGCTGGGGCAGCGCGAGCGAGGAGCCGAGCCGCGGCACAGTGGCACCACTGCAAGTGGAGGTGAGAATG AGCGTGAGGACCTGGAGCAGGAGTGGAAGCCCCCGGATGAGGAGTTGATCAAGAAACTGGTGGATCAGATCGAAT TCTGCTTTTCTGATGAAAACCTGGAGAAGGACGCCTTTTTGCTAAAACACGTGAGGAGGAACAAGCTGGGATATG TGAGCGTTAAGCTACTCACATCCTTCAAAAAGGTGAAACATCTTACACGGGACTGGAGAACCACAGCACATGCTT TGAAGTATTCAGTGGTCCTTGAGTTGAATGAGGACCACCGGAAGGTGAGGAGGACCACCCCGGTCCCACTGTTCC CCAACGAGAACCTCCCCAGCAAGATGCTCCTGGTCTATGATCTCTACTTGTCTCCTAAGCTGTGGGCTCTGGCCA CCCCCAGAAGAATGGAAGGGTGCAAGAGAAGGTGATGGAACACCTGCTCAAGCTTTTTGGGACTTTTTGGAGTCA TCTCATCAGTGCGGATCCTCAAACCTGGGAGAGAGCTGCCCCCTGACATCCGGAGGATCAGCAGCCGCTACAGCC AAGTGGGGACCCAGGAGTGCGCCATCGTGGAGTTCGAGGAGGTGGAAGCAGCCATCAAAGCCCATGAGTTCATGA TCACAGAATCTCAGGGCAAAGAGAACATGAAAGCTGTCCTGATTGGTATGAAGCCACCCAAAAAAGAAACCTGCCA AAGACAAAAATCATGACGAGGAGCCCACTGCGAGCATCCACCTGAACAAGTCCCTGAACAAGAGAGTCGAGGAGC TTCAGTACATGGGTGATGAGTCTTCTGCCAACAGCTCCTCTGACCCCGAGAGCAACCCCCACATCCCCTATGGCGG GCCGACGCACCACCAACAACCTCAGCCCGTCTGGCCACCAGAATCTCTTTCTGAGTCCAAATGCCTCCC CGTGCACAAGTCCTTGGAGCAGCCCCTTGGCCCAACGCAAAGGCGTTTCCAGAAAGTCCCCACTGGCGGAGGAAG GTAGACTGAACTGCAGCACCAGCCCTGAGATCTTCCGCAAGTGTATGGATTATTCCTCTGACAGCAGCGTCACTC  $\verb|CCTCTGGCAGCCCTGGGTCCGGAGGCGTCGCCAAGCCGAGATGGGGACCCAGGAGAAAAGCCCCGGTACGAGTC| \\$ CCCTGCTCTCCCGGAAGATGCAGACTGCAGATGGGCTACCCGTAGGGGTGCTGAGGTTGCCCAGGGGTCCTGACA  ${\tt ACACCAGAGGATTTCATGGCCATGAGAGGAGCAGGGCCTGTGTA} \underline{{\tt TAAA}} {\tt ATACCTTCTATTTTTAATACAAGCTCCA}$ CTGAAAACCACCTTCGTTTTCAAGGTTCTGACAAACACCTGGCATGACAGAATGGAATTCGTTCCCCTTTGAGAG GGCCCTGAAGGGCTGTAGGACGGAGGTTCCCTGGGGGAAGTCTGTTCTTTGGTATGGAATTTTTCTCTCTTTTT GGTATGGAATTTTTCCCTTCAGTGACTGAGCTGTCCTCGATAGGCCATGCAAGGGCTTCCTGAGAGTTCAGGAAA GTTCTCTTGTGCAACAGCAAGTAGCTAAGCCTATAGCATGGTGTCTTGTAGGACCAAATCGATGTTACCTGTCAA GTAAATAATAATAAAACACCCAACTGGGAGTGCTG

MAQSGGEARPGPKTAVQIRVAIQEAEDVDELEDEEEGAETRGAGDPARYLSPGWGSASEEPSRGHSGTTASGGE
NEREDLEQEWKPPDEELIKKLVDQIEFCFSDENLEKDAFLLKHVRRNKLGYVSVKLLTSFKKVKHLTRDWRTTAH
ALKYSVVLELNEDHRKVRRTTPVPLFPNENLPSKMLLVYDLYLSPKLWALATPQKNGRVQEKVMEHLLKLFGTFG
VISSVRILKPGRELPPDIRRISSRYSQVGTQECAIVEFEEVEAAIKAHEFMITESQGKENMKAVLIGMKPPKKKP
AKDKNHDEEPTASIHLNKSLNKRVEELQYMGDESSANSSSDPESNPTSPMAGRRHAATNKLSPSGHQNLFLSPNA
SPCTSPWSSPLAQRKGVSRKSPLAEEGRLNCSTSPEIFRKCMDYSSDSSVTPSGSPWVRRRQAEMGTQEKSPGT
SPLLSRKMQTADGLPVGVLRLPRGPDNTRGFHGHERSRACV

**ATG**TCCATCAGGGTGACCCAGAAGTCCTACAAGATGTCCACCTCTGGCCCCCGGGCCTTCAGCAGCTGCTCCTAC ACAAGCTCTACACACCCAAAGAAGGAGCAGATCAAGGCCCTCAACAACAAGTTTGCCTCCTTCATAGACAAGGTA TGGTTCCTGGAGCAGCAGAACAAGATGCTGGAGACCAAGTGGAGCCTCCTGCAGCAGCAGAAGATGGCTCGGAAC AACAAGAACAACATGTTCCAGAGCTATATCAACAACCTTAGGTGGCAGCTGGAGACTCTGAGCCAGGAGAAGCTG AAGCTGGAGGTGGAGCTTGGCAACATGCAGGGGCTGGTGGAGGACTTCAAGAACAAATATGAGGATGAGATCAAT AAGCGTACAGAGGTGGAGAATGAATTTGTCCTCATCAAGAAGGATGTGGATGAAGCTTACATGAACAAGATAGAG CTGGAGTCTTGCCTGGAAGGGCTGACTGACGAGATGGACTTCCTCAGGCAGCTGTTTGAAGAGGAGATCTGGGAG CTGCAGTCCCACATCTCGGACATATCTGTGGTGCTGTCCATGGACAACAGCTACTTCCTGGACACGGTCAGCATC ATTGCTGAGGTCAAGGAGGAGATTGCCAACCGCAGCCAGGCGGAGGCTGAGAGCATGCACCAGATCAAGTATGAG GAGCTGCAGACGCTGGCAGCCTTGGGCATGACCTGCAGCCTATAAAGACTGAGATCTCCGAGATGAACTGG AACATCAGCCGGCTCCAGGCTGAGATTAAGGGCCTCAAAGGCCAGATGGCTTCCCTGGAGGCCACCATCGCAGAT GTGGAGCAGCGTGGGGAGCTGGCCGTTAAGGATGCCAACGCCAAGCTGTCCGAGCTGGAGGCCTCTCTGCAATGG GCCAGGCAGGATATGGTGTGGCAGCTGCGTGAGTACCAGGAGCTGATGAATGTCAAGCTGGCCTTGGGCATCAAA ACTGCCACCTACAGGAAGCTGCTGGAGGGTGAGGAGGCCGGCTGGAGTCTGGGATGCAGAACATGACAATCCAT ACGAAGACCACCAGCGGCTATGCAGGTGGTCTGAGCTCCACCTATGGGGACCTCACAAGCCCCGGCCTCAGCTAC AGCCTGGGCTCCAGCTTTGGCTCTGGCGCAGGCTCCAGCTCCTTCAGCCGCACCGGCTCCACCAGGGCTGTGGTT GAAGAAGAT**TGA** 

MSIRVTQKSYKMSTSGPRAFSSCSYTSSTHPKKEQIKALNNKFASFIDKVWFLEQQNKMLETKWSLLQQQKMARN NKNNMFQSYINNLRWQLETLSQEKLKLEVELGNMQGLVEDFKNKYEDEINKRTEVENEFVLIKKDVDEAYMNKIE LESCLEGLTDEMDFLRQLFEEEIWELQSHISDISVVLSMDNSYFLDTVSIIAEVKEEIANRSQAEAESMHQIKYE ELQTLAGKLGHDLQPIKTEISEMNWNISRLQAEIKGLKGQMASLEATIADVEQRGELAVKDANAKLSELEASLQW ARQDMVWQLREYQELMNVKLALGIKTATYRKLLEGEESRLESGMQNMTIHTKTTSGYAGGLSSTYGDLTSPGLSY SLGSSFGSGAGSSSFSRTGSTRAVVEED

PCT/US2003/028547

### 4596/6881 FIGURE 4236

GCAGTACATTGAGCTCCACAGAGACAGCGCCAGGGCAAGTGAGAGCCGGACGGCCACTGGGCGACTCTGTGCCTC GCTGAGGAAAAATAACTAAACATGGGCAAAAGGAGATCCTAAGAAGCTGAGAGGCAAAATGTCATCATATGCATTT TTTGTGCAAACGTCGGGAGGAGCATAAGAAGAAGCACCCAGATGCTTCAGTCAACTTCTCAAGAGTTTTCTAAGA AATGCACCCAAGAGGCCTCCTTCGGCCTTCTTCCTCTTCTGCTCTGAGTATCGCCCAAAAATCAAAGGAGAACAT CCTGGCCTGTCCATTGGTGATGTTGCGAAGAAACTGGGAGAGATGTGGAATAACACTGCTGCAGATGACAAGCAG CCTTATGAAAAGAAGGCTGCGAAGCTGAAGGAAAAATACGAAAAGGATATTGCTGCATATCGAGCTAAAGGAAAG GGTTGTAAATTGGCATGGAAATTTAAAGCAGGTTCTTGTTGGTGCACAGCACAAATTAGTTATATATGGGGATGG TAGTTTTTCATCTTCAGTTGTCTCTGATGCAGCTTATACGAAATAATTGTTGTTCTGTTAACTGAATACCACTC TGTAATTGCAAAAAAAAAAAAAAGTTGCAGCTGTTTTGTTGACATTCTGAATGCTTCTAAGTAAATACAATTT TTTTATTAGTATTGTTGTCCTTTTCATAGGTCTGAAATTTTTCTTCTTGAGGGGAAGCTAGTCTTTTGCTTTTGC CCATTTTGAATCACATGAATTATTACAGTGTTTATCCTTTCATATAGTTAGCTAATAAAAAGCTTTTGTCTACCC ACCCTGCATATCATAATGAGGGTAAAGTTAAGTTGAGATAGTTTCATCCATAACTGAACATCCAAAATCTTGAT CTAGAATCAAACATTTTGAAAGTCTGTCCTTGAAGGACTAATAGAAAAGTATGTTCTAACCTTTACATGAGGACT CTATTCTTTAACTCCCATTACCATGTAATGGCAGTTATATTTTGCAGTTCCCACATTAAAGAAGACCTGAGAATG TATCCCCAAAAGCGTGAGCTTAAAATACAAGACTGCCATATTAAATTTTTTGTTGACATTAGTCTCAGTGAAGAC TATGAAAATGCTGGCTATAGATGTCTTTTCCCATTTATCTAAATATGGACTGCTCAGGAAACGAGACTTTCCATT TTACGGTTTGCCCCTTTATAAATCCAAGTAGATAGGAGGAAAGAAGACACTTAAACTTTGCATCTCAGTATGAAT GGGAACAATTTGGCAATTTTGTGGTTTTCGAGATTATCGTTTTCTTAAAGTGCCAGTATTTTAAAATAGCGTTCT TATAATTTTACACGCTTTTGTGATGGAGTGCTGTTTTGTTATATAATTTTGACTTGGATTCTTTCCATTTGCATT TGTTTATGTAATTTCAGGAGGAATACTGAACATCTGAGTCCTGGATGATACTAATAAACTAATAATTGCAGAGGT TT

TTACAGGAAAAAGGCTCTTGCTATGAAAGTTAATCCATAAAATTACAAAAATGACTGTTTTGGCAGTACATTGAG CTCCACAGAGACAGCGCCAGGGCAAGTGAGAGCCGGACGGGCACTGGGCGACTCTGTGCCTCGCTGAGGAAAAAT AACTAAACATGGGCAAAGGAGATCCTAAGAAGCTGAGAGGCAAAATGTCATCATATGCATTTTTTGTGCAAACGT  ${\tt CGGGAGGAGCATAAGAAGAAGCACCCAG} \underline{{\tt ATG}} {\tt CTTCAGTCAACTTCTCAAGAGTTTTCTAAGAAGTGCTCAGAGAG}$ GTGGAAGACCATTTCTGCTAAAGACAAAGGAAAATTTCAAGATATGGCAAAGGTGGACAAGGCCCATTATGAAAG AGAAATGAAAACCTACATCCCTCCCAAAGGGGAGACAAAAAAGAAGTTCAAGGATCCCAATGCACCCAAGAGGCC TCCTTCGGCCTTCTTCTCTCTCTGGTTTCGCCCCAAAAATCAAAGGAGAACATCCTGGCCTGTCCATTGG TGATGTTGCGAAGAAACTGGGAGAGATGTGGAATAACACTGCTGCAGATGACAAGCAGCCTTATGAAAAGAAGGC TGCGAAGCTGAAGGAAAAATACGAAAAGGATATTGCTGCATATCGAGCTAAAGGAAAGCCTGATGCAGCAAAAAA GAAATTTAAAGCAGGTTCTTGTTGGTGCACAGCACAAATTAGTTATATATGGGGATGGTAGTTTTTTCATCTTCA AAAAAAAGTTGCAGCTGTTTTGTTGACATTCTGAATGCTTCTAAGTAAATACAATTTTTTTATTA

 ${\tt MLQSTSQEFSKKCSERWKTISAKDKGKFQDMAKVDKAHYEREMKTYIPPKGETKKKFKDPNAPKRPPSAFFLFCS} \\ {\tt EYRPKIKGEHPGLSIGDVAKKLGEMWNNTAADDKQPYEKKAAKLKEKYEKDIAAYRAKGKPDAAKKGVVKAEKSK} \\ {\tt KKKEEEEDEEDEEDESWF} \\$ 

MVRYSLDPENPTKSGKSRGSNLRVHFKNTRETAQAIKGMHIRKATKYLKDVTLQKQCVPFRHYNGGVGRCAQAKQ WGWTQGRWPKKSAEFLLHMLKNAESNAELKGLDVDSLVIEHIQVNKAPKMHRRTYRAHGRINPYMSSPCHIEMIL TEKEQIVPKPEEEVAQKKKISQKKLKKQKLMARE

GAATCAAAGTTCCTCTTGGGGAAATGGCAAGTCTTTAGGACAGGCGAGACCCTGTATGAATAGTACCAAAGCATT ACTGCATGGTAGAGAACACACTCAATTAAAAATGTTAAGCTATCTGAAAAATAAAATGTGCAAGTCTTCAGGATG GCACAAAACAAAGGTTAATGCTTCTTGGGGCACATTTCTTAGAGGGCTTGCTGAGTGTAAATATAATCGACTT TTGTTTGTGTTACATGACTTCTGTGACTTCACTGAAAATCTGCACAATTCAGTTTCAGCTCTGGATTACTTCAGT TGACCTTTGTGAAGGTTTTTATCTGTGTAGAATGGGTGTTTGACTTGTTTTAGCCTATTACGTTTTTATTTTCTT TTTTTAGTGAGGCTTTCTGAACATTGAGATATCCTGAACTTAGAGCTCTTCAATCCTAAGATTTTCATGAAAAGC CTCTCACTTGAACCCAAACCAGAGTACTCTTACTGCCTCTTTTCTAAATGTTCAGGAAAAGCATCGTCAGTTCAG TCTTTTCAGAATGAGGGAGAAACATTTGCCTGCCTTGTAATAACAAGACTCAGCGCTTATTTTTTTAAACTGCAT TTTAAAAATTGGATAGTATAATAACAATAAGGAGTAAGCCACCTTTTATAGGCACCCTGTAGTTTTATAGTTCTT AATCCAAACATTTTATATTTCCTTCTTTTGGAAAAAACCTACATGCTACAAGCCACCATATGCACAGACTATACA GTGAGTTGAGTTGCCTCTCCCACAGTCTTTGAGGCGAATTACAAAAGTCCAGCCATTATCATCTTCCTGAGTTAT TATTTTGAAATGATTTTTTTTTTGTACATTTTTGGCTGCAGTATTGGTGGTAGAATATACTATAATATGGATCATCTCT ACTICTGTATTTATTTATTTACTAGACCTCAACCACAGTCTTCTTTTTCCCCTTCCACTGTCTTTTTCC GATCTGTTTTGTACTTTTATACTGTTGGATACTTATAATCAAAACTTTTACTAGGGTATTGAATAAATCTAGTC 

GGCTGAGGCAGTGGCTCCTTGCACAGCAGCTGCACGCGCCGTGGCTCCGGATCTTCTTCGTCTTTGCAGCGTAGC GACCCAGCAGCTGCACGCAGCCATGGCTGACACATTCCTGGAGCACATGTGCCGCCTGGACATTGATTCACCACC CATCACAGCCCGGAACACTGGCATCATCTGTACCATTGGCCCAGCTTCCCGATCAGTGGAGACGTTGAAGGAGAT GATTAAGTCTGGAATGAATGTGGCTCGTCTGAACTTCTCTCATGGAACTCATGAGTACCATGCGGAGACCATCAA GAATGTGCGCACAGCCACGGAAAGCTTTGCTTCTGACCCCATCCTCTACCGGCCCGTTGCTGTGGCTCTAGACAC TAAAGGACCTGAGATCCGAACTGGGCTCATCAAGGGCAGCGGCACTGCAGAGGGGGGGCGGAGCCAC TCTCAAAATCACGCTGGATAACGCCTACATGGAAAAGTGTGACGAGAACATCCTGTGGCTGGACTACAAGAACAT TGCCGACTTCCTGGTGACGGAGGTGGAAAATGGTGGCTCCTTGGGCAGCAAGAAGGGTGTGAACCTTCCTGGGGC TGCTGTGGACTTGCCTGTGTCGGAGAAGGACATCCAGGATCTGAAGTTTGGGGTCGAGCAGGATGTTGATAT GGTGTTTGCGTCATTCATCCGCAAGGCATCTGATGTCCATGAAGTTAGGAAGGTCCTGGGAGAAGAAGGAAAGAA CATCAAGATTATCAGCAAAATCGAGAATCATGAGGGGGTTCGGAGGTTTGATGAAATCCTGGAGGCCAGTGATGG GATCATGGTGGCTCGTGGTGATCTAGGCATTGAGATTCCTGCAGAGAAGGTCTTCCTTGCTCAGAAGATGATGAT TGGACGGTGCAACCGAGCTGGGAAGCCTGTCATCTGTGCTACTCAGATGCTGGAGAGCATGATCAAGAAGCCCCG AACAGCCAAAGGGGACTATCCTCTGGAGGCTGTGCGCATGCAGAACCTGATTGCCCGTGAGGCAGAGGCTGCCAT CTACCACTTGCAATTATTTGAGGAACTCCGCCGCCTGGCGCCCATTACCAGCGACCCCACAGAAGCCACCGCCGT GGGTGCCGTGGAGGCCTCCTTCAAGTGCTGCAGTGGGGGCCATAATCGTCCTCACCAAGTCTGGCAGGTCTGCTCA CCAGGTGGCCAGATACCGCCCACGTGCCCCCATCATTGCTGTGACCCGGAATCCCCAGACAGCTCGTCAGGCCCA CCTGTACCGTGGCATCTTCCCTGTGCTGTGCAAGGACCCAGTCCAGGAGGCCTGGGCTGAGGACGTGGACCTCCG GGTGAACTTTGCCATGAATGTTGGCAAGGCCCGAGGCTTCTTCAAGAAGGGAGATGTGGTCATTGTGCTGACCGG  ${\tt ATGGCGCCCTGGCTCCGGCTTCACCAACACCATGCGTGTTGTTCCTGTGCCG} {\tt TGA} {\tt TGGACCCCAGAGCCCCTCCT}$  ${\tt AACGTGGCACTGGTAGGTTGGGACACCAGGGAAGAAGATCAACGCCTCACTGAAACATGGCTGTTTTGCAGCCT}$ TGGACTGGAGGCCCTGGAGCCAGATGGCAAGAGGGTGACAGCTTCCTTTCCTGTGTACTCTGTCCAGTTCCT TTAGGGCACTGGGCTGTTGTTCCATTGAAGCCGACTCTGGCCCTTGCCTTACTTGCTTCTAGCTCTCTAGGC TCCCCCACTACTGCAGCACCTCCAGGCCTGTTGCCGC

MSKPHSEAGTAFIQTQQLHAAMADTFLEHMCRLDIDSPPITARNTGIICTIGPASRSVETLKEMIKSGMNVARLN FSHGTHEYHAETIKNVRTATESFASDPILYRPVAVALDTKGPEIRTGLIKGSGTAEVELKKGATLKITLDNAYME KCDENILWLDYKNICKVVEVGSKIYVDDGLISLQVKQKGADFLVTEVENGGSLGSKKGVNLPGAAVDLPAVSEKD IQDLKFGVEQDVDMVFASFIRKASDVHEVRKVLGEKGKNIKIISKIENHEGVRRFDEILEASDGIMVARGDLGIE IPAEKVFLAQKMMIGRCNRAGKPVICATQMLESMIKKPRPTRAEGSDVANAVLDGADCIMLSGETAKGDYPLEAV RMQNLIAREAEAAIYHLQLFEELRRLAPITSDPTEATAVGAVEASFKCCSGAIIVLTKSGRSAHQVARYRPRAPI IAVTRNPQTARQAHLYRGIFPVLCKDPVQEAWAEDVDLRVNFAMNVGKARGFFKKGDVVIVLTGWRPGSGFTNTM RVVPVP

CAGGACGGGCGACGGCCCTCTGGCCCTCAGAACTTCCAAACCTCCGACCAGCGCTACGTCCTTTACCCGA GCTATCGTGACCTGCTTTTCGGTTCCGGGTCTTGGCCCCGTCCTTACCTCACAGGGAAACGGCATACACTGGAGA AGAATGTGTTGGTTGTCTCTGTAGTCACACCTGGATGTAACCAGCTTCCTACTTTGGAGTCAGTGGAGAATTATA CCCTGACCATAAATGATGACCAGTGTTTACTCCTCTCTGAGACTGTCTGGGGAGCTCTCCGAGGTCTGGAGACTT TTAGCCAGCTTGTTTGGAAATCTGCTGAGGGCACATTCTTTATCAACAAGACTGAGATTGAGGACTTTCCCCGCT TTCCTCACCGGGGCTTGCTGTTGGATACATCTCGCCATTACCTGCCACTCTCTAGCATCCTGGACACTCTGGATG TCATGGCGTACAATAAATTGAACGTGTTCCACTGGCATCTGGTAGATGATCCTTCCCTTCCCATATGAGAGCTTCA CTTTTCCAGAGCTCATGAGAAAGGGGTCCTACAACCCTGTCACCCACATCTACACAGCACAGGATGTGAAGGAGG TCATTGAATACGCACGGCTCCGGGGTATCCGTGTGCTTGCAGAGTTTGACACTCCTGGCCACACTTTGTCCTGGG GACCAGGTATCCCTGGATTACTGACTCCTTGCTACTCTGGGTCTGAGCCCTCTGGCACCTTTGGACCAGTGAATC  ${\tt CCAGTCTCAATAATACCTATGAGTTCATGAGCACATTCTTCTTAGAAGTCAGCTCTGTCTTCCCAGATTTTTATC}$ TTCATCTTGGAGGAGATGAGGTTGATTTCACCTGCTGGAAGTCCAACCCAGAGATCCAGGACTTTATGAGGAAGA AAGGCTTCGGTGAGGACTTCAAGCAGCTGGAGTCCTTCTACATCCAGACGCTGCTGGACATCGTCTCTTATG GCAAGGGCTATGTGGTGTGGCAGGAGGTGTTTGATAATAAAGTAAAGATTCAGCCAGACACAATCATACAGGTGT GGCGAGAGGATATTCCAGTGAACTATATGAAGGAGCTGGAACTGGTCACCAAGGCCGGCTTCCGGGCCCTTCTCT CTGCCCCTGGTACCTGAACCGTATATCCTATGGCCCTGACTGGAAGGATTTCTACATAGTGGAACCCCTGGCAT TTGAAGGTACCCCTGAGCAGAAGGCTCTGGTGATTGGTGGAGAGGCTTGTATGTGGGGAGAATATGTGGACAACA  ${\tt CAAACCTGGTCCCCAGGCTCTGGCCCAGAGCAGGGGGCTGTTGCCGAAAGGCTGTGGAGCAACAAGTTGACATCTG}$  ${\tt ACCTGACATTTGCCTATGAACGTTTGTCACACTTCCGCTGTGAATTGCTGAGGCGAGGTGTCCAGGCCCAACCCC}$ GAATGGTAGTGGAGCCAGGCTTCCACTGCATCCTGGCCAGGGGACGGAGCCCCTTGCCTTGCCTG  $\tt CGTGCCCTGTGCTTGGAGAGAGGGGCCGGTGCTGGCGCTCGCATTCAATAAAGAGTAATGTGGCATTTTTCT$ ATAATAAACATGGATTACCTGTGTTTAAAAAAAAAAGTGTGAATGGCGTTAGGGTAAGGGCACAGCCAGGCTGGA GTCAGTGTCTGCCCCTGAGGTCTTTTAAGTTGAGGGCTGGGAATGAAACCTATAGCCTTTGTGCTGTTCTGCCTT GCCTGTGAGCTATGTCACTCCCCCCCCCCCCCCGACCATATTCCAGACACCTGCCCTAATCCTCAGCCTGCTCAC TTCACTTCTGCATTATATCTCCAAGGCGTTGGTATATGGAAAAAGATGTAGGGGCTTGGAGGTGTTCTGGACAGT GGGGAGGGCTCCAGACCCAACCTGGTCACAGAAGAGCCTCTCCCCCATGCATACTCATCCACCTCCCTAG AGCTATTCTCCTTTGGGTTTCTTGCTGCTTCAATTTTATACAACCATTATTTAAATATTATTAAACACATATTGT TCTCT

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GAGA<u>ATG</u>TCGTCCCAGCCAGCAGGGAACCAGACCTCCCCCGGGGCCACAGAGGACTACTCCTATGGCAGCTGGTA CATCGATGAGCCCCAGGGGGGGGAGGTCCCAGCCAGAGGGGGGAAGTGCCCTCCTGCCACACCAGCATACCACC CGGCCTGTACCACGCCTGCCTGGCCTGCTGTCAATCCTTGTGCTGCTCCTGGCCATGCTGGTGAGGCGCCG CCAGCTCTGGCCTGACTGTGCGTGGCAGGCCCGGCCTGCCCAGCCCTGTGGATTTCTTGGCTGGGGACAGGCC  $\tt CCGGGCAGTGCCTGCTGTTTTCATGGTCCTCCTGAGCTCCCTGTGTTTGCTGCTCCCGACGACGACGACGCATT$ GCCCTTCCTGACTCTCGCCTCAGCACCCAGCCAAGATGGGAAAACTGAGGCTCCAAGAGGGGCCTGGAAGATACT GCTCGGCAGCACGCTGTCCTGGGCCCACCTTGGGGTCCAGGTCTGGCAGAGGGCAGAGTGTCCCCAGGTGCCCAA GATCTACAAGTACTACTCCTGCTGCCTCCCTGCCTCTCTGCTGGGCCTCGGATTCCTGAGCCTTTGGTACCC TGTGCAGCTGGTGAGAAGCTTCAGCCGTAGGACAGGAGCAGGCTCCAAGGGGCTGCAGAGCAGCTACTCTGAGGA ATATCTGAGGAACCTCCTTTGCAGGAAGAAGCTGGGAAGCAGCTACCACCTCCAAGCATGGCTTCCTGTCCTG  ${\tt GGCCCGCGTCTGAGACACTGCATCTACACTCCACAGCCAGGATTCCATCTCCCGCTGAAGCTGGTGCTTTC}$ AGCTACACTGACAGGGACGGCCATTTACCAGGTGGCCCTGCTGCTGGTGGGCGTGGTACCCACTATCCAGAA GGTGAGGGCAGGGGTCACCACGGATGTCTCCTACCTGCTGGCCAGCTTTGGAATCGTGCTCTCCGAGGACAAGCA GGAGGTGGTGGAGCTGGTGAAGCACCATCTGTGGGGCTCTGGAAGTGTGCTACATCTCAGCCTTGGTCTTGTCCTG  $\tt TGCCTACCAGACAGCCTTTATCTGCCTTGGGCTCCTGGTGCAGCAGATCATCTTCTTCCTGGGAACCACGGCCCT$ GGCCTTCCTGGTGCTCATGCCTGTGCTCCATGGCAGGÀACCTCCTGCTCTTCCGTTCCCTGGAGTCCTCGTGGCC  $\tt CTTCTGGCTGACTTTGGCCCTGGCTGTGATCCTGCAGAACATGGCAGCCCATTGGGTCTTCCTGGAGACTCATGA$ TGGACACCCACAGCTGACCAACCGGCGAGTGCTCTATGCAGCCACCTTTCTTCTCTTCCCCCTCAATGTGCTGGT GGGTGCCATGGTGGCCACCTGGCGAGTGCTCCTCTCTGCCCTCTACAACGCCATCCACCTTGGCCAGATGGACCT CAGCCTGCTGCCACCGAGAGCCGCCACTCTCGACCCCGGCTACTACACGTACCGAAACTTCTTGAAGATTGAAGT CAGCCAGTCGCATCCAGCCATGACAGCCTTCTGCTCCCTGCTCCTGCAAGCGCAGAGCCTCCTACCCAGGACCAT GGCAGCCCCCAGGACAGCCTCAGACCAGGGGAGGAAGACGAAGGGATGCAGCTGCTACAGACAAAGGACTCCAT GGCCAAGGGAGCTAGGCCCGGGGCCAGCCGCGGCAGGGCTCGCTGGGGTCTGGCCTACACGCTGCTGCACAACCC  $\texttt{AACCCTGCAGGTCTTCCGCAAGACGGCCCTGTTGGGTGCCCATTGGTGCCCAGCCC} \underline{\textbf{TGA}} \texttt{GGCAGGGAAGGTCAAC}$  ${\tt GGGCTCTGCTCCACCCACTTGGCTATGGGAGAGCCAGCAGGGGTTCTGGAGAAAAAAACTGGTGGGTTAGGGCCT}$ TGGTCCAGGAGCCAGTTGAGCCAGGCCAGCCACATCCAGGCGTCTCCCTACCCTGGCTCTGCCATCAGCCTTGAA GGGCCTCGATGAAGCCTTCTCTGGAACCACTCCAGCCCAGCTCCACCTCAGCCTTGGCCTTCACGCTGTGGAAGC AGCCAAGGCACTTCCTCACCCCTCAGCGCCACGGACCTCTCTGGGGAGTGGCCGGAAAGCTCCCGGGCCTCTGG  $\verb|CCTGCAGGGCCCAAGTCATGACTCAGACCAGGTCCCACACTGAGCTGCCCACACTCGAGAGCCAGATATTTT|\\$ TGTAGTTTTTATGCCTTTGGCTATTATGAAAGAGGTTAGTGTGTCCCTGCAATAAACTTGTTCCTGAGAAAAAA 

MSSQPAGNQTSPGATEDYSYGSWYIDEPQGGEELQPEGEVPSCHTSIPPGLYHACLASLSILVLLLLAMLVRRRQ LWPDCVRGRPGLPSPVDFLAGDRPRAVPAAVFMVLLSSLCLLLPDEDALPFLTLASAPSQDGKTEAPRGAWKILG LFYYAALYYPLAACATAGHTAAHLLGSTLSWAHLGVQVWQRAECPQVPKIYKYYSLLASLPLLLGLGFLSLWYPV QLVRSFSRRTGAGSKGLQSSYSEEYLRNLLCRKKLGSSYHTSKHGFLSWARVCLRHCIYTPQPGFHLPLKLVLSA TLTGTAIYQVALLLLVGVVPTIQKVRAGVTTDVSYLLASFGIVLSEDKQEVVELVKHHLWALEVCYISALVLSCL LTFLVLMRSLVTHRTNLRALHRGAALDLSPLHRSPHPSRQAIFCWMSFSAYQTAFICLGLLVQQIIFFLGTTALA FLVLMPVLHGRNLLLFRSLESSWPFWLTLALAVILQNMAAHWVFLETHDGHPQLTNRRVLYAATFLLFPLNVLVG AMVATWRVLLSALYNAIHLGQMDLSLLPPRAATLDPGYYTYRNFLKIEVSQSHPAMTAFCSLLLQAQSLLPRTMA APQDSLRPGEEDEGMQLLQTKDSMAKGARPGASRGRARWGLAYTLLHNPTLQVFRKTALLGANGAQP

GGCACGAGGGGCCCTGGGCCAGCGCGCGCTCGATGTGTCAGCCAAGTAGCTGGTCCCACTGGAGCG GTGAGGTCGCCACCGGATAGTGTTCCTGCCCCATTACTAGCGATCTGTGACCTTGGGCCAGTGATTTTACTGAGT ATATAAAACGACCTCCTTCTGGCATAAACTTGAGGTGGAAGATACCTTGAGGATGCTTGAAGGTCTGCTAGGCAG CTTCACAGCCTTTTCTTTCCTCTTCTCTATCAGAGGTCTCTTTGGAAGCAATAATGATGACTATAACAAGAACTT  ${\tt AGAGAGAGGCGCGAAAGAGAGAGAGGATC}{\tt TCTCTCTCAGACTGGCACCTGGCGGTGAAGCTGGCTGACCAGCCACTTA}$ CTCCAAAGTCTATTCTTCGGTTGCCAGAGACAGAACTGGGAGAATACTCGCTAGGGGGCTATAGTATTTCATTTC GGAAGCTAAAAGATGACCAGACACTTGACTTCTATGGCATTCAACCTGGGTCCACTGTCCATGTTCTGCGAAAGT CCTGGCCTGAACCTGATCAGAAACCGGAACCTGTGGACAAAGTGGCTGCCATGAGAGAGTTCCGGGTGTTGCACA CTGCCCTGCACAGCAGCTCCTCTTACAGGGAGGCGGTCTTTAAGATGCTCAGCAATAAGGAGTCTCTGGATCAGA TCATTGTGGCCACCCAGGCCTCAGCAGTGACCCTATTGCTCTTGGGGTTCTCCAGGACAAGGACCTCTTCTCTG TCTTCGCTGATCCCAATATGCTTGATACGTTGGTGCCTCACCCAGCCCTCGTCAATGCCATTGTCCTGGTTC GGGATATGCCAGGTGGCTTCCTGTTTGAAGGGCTCTCAGATGATGAGGATGACTTTCACCCAAACACCAGGTCCA CCCAGGGTCATTCCTCAGGGACCTCACCAATGTCCTCTGGTGTCCAGTCAGGGACGCCCATCACCAATGATCTCT AGCAGCTACGTGACATGGGCATCCAGGACGATGAGCCTGCGGGCCCTGCAGGCCACCGGTGGGGACATCC AAGCAGCCCTGGAGCTCATCTTTGCTGGAGGAGCCCCA<u>TGA</u>ACTCCCTGCTTCCCCTGAACCCCCAGCAAGTTGC AGAGGCTACTGCCCTTGGGAGGCACTCATGAAGGTGCCTCCATCTCCCCTTCCCCAATATACCTGATGGTCAAC 

MSLSDWHLAVKLADQPLTPKSILRLPETELGEYSLGGYSISFLKQLIAGKLQESVPDPELIDLIYCGRKLKDDQT LDFYGIQPGSTVHVLRKSWPEPDQKPEPVDKVAAMREFRVLHTALHSSSSYREAVFKMLSNKESLDQIIVATPGL SSDPIALGVLQDKDLFSVFADPNMLDTLVPAHPALVNAIVLVLHSVAGSAPMPGTDSSSRSMPSSSYRDMPGGFL FEGLSDDEDDFHPNTRSTPSSSTPSSRPASLGYSGAAGPRPITQSELATALALASTPESSSHTPTPGTQGHSSGT SPMSSGVQSGTPITNDLFSQALQHALQASGQPSLQSQWQPQLQQLRDMGIQDDELSLRALQATGGDIQAALELIF AGGAP

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GGCGGGACGCCACGCTCACAGTGAGGTCTCAAAAGATCCCCACCTCAGTTTTCTCATCTGGAAAGTGGGGCCTC GTAATCCTGTCCGACCCGGCGCGGGACAGTAGGTGTCAGGGATTTTGGTGACCCCACGCTCGAGGCCTCTGCAAA AGGGGGCTGTCCAGTGGCCCAGAGACGCAGCCGGCGGGGCTTTTGTCTAGCGGGGGAGTCTTAACTGAGAGGCCA TCAAAAAACCCGCACACCAAGATAATAATGTGTCGTTCGCTCGTTTCGCGCAAGCGGAGTCGCGTCCGCCTTC  $\tt CCGAGCTCCGGCACACAGACCTCAGGCCGCTCTCGCGCTCTCCGGGGCCCCGAGAACAATGCCCGTCCTCTCCGC$ GCGCAGGAGGGAGTTGGCGGACCACGCGGGGTCGGGGCCGACGGACCGGGCCCACGCCCACGCCCACGGTCGGGGCC CCACCTCTCGGCTCTGAGAGCCCAGCCGGCCCGGGCCGCACCTGTCAGGTCGGGGGACCTACGTGCGCCGCGA  $\verb|CCGGAGCGGAGGCTGGTGCCCCGGAGCCTTCGAGTCGGGGGCTAGAGCGGCCAGGCCTCCGAGCCGGGTCGA|$ GCCGAGGCTGCCGACGCTCACGCGAGGGGGGCGGGCTGCCACGGGCGGAGGTCGCAGCCGGAAGCGGAAG AGGCGCTCGGAGCGGGGGTGGGGCCTAGCTGCAGCCGGAGCCTGGGAGACGCCATGACCGCCTGCCCTACCAGA GGAGGTACCGGGAGCGCCGTGACAGCGATACATACCGGTGTGAAGAGCGGAGCCCATCCTTTGGAGAGGACTACT ATGGACCTTCACGTTCTCGTCATCGTCGGCGATCGCGGGAGGGGGGCCATACCGGACCCGCAAGCATGCCCACC ACTGCCACAAACGCCGCACCAGGTCTTGTAGCAGCGCCTCCTCGAGAAGCCAACAGAGCAGTAAGCGCAGCAGCA GGAGTGTGGAAGATGACAAGGAGGGTCACCTGGTGTGCCGGATCGGCGATTGGCTCCAAGAGCGATATGAGATTG TGGGGAACCTGGGTGAAGGCACCTTTGGCAAGGTGGTGGAGTGCTTGGACCATGCCAG